

NOTES ON RECENT WORK OF THE BYZANTINE INSTITUTE IN ISTANBUL

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THE purpose of these notes is to record the progress that has been made in recent years in certain projects of restoration and investigation in the Byzantine monuments of Istanbul. They form a continuation of the report by Professor Paul A. Underwood and Mr. Lawrence J. Majewski that carried the record down to the year 1959;¹ but they mainly concern the work done under the direction of the writer in 1961 and during a shorter period the following year. At this stage attention was centered on three monuments: the north church, dedicated to the Theotokos, of the monastery of Constantine Lips (Fenari Isa Camii); the south church of the Pantocrator group (Zeyrek Camii); and the Parecclesion of the church of the Pammakaristos (Fethiye Camii). This opportunity is taken to illustrate and comment upon some of the more important objects that have been found in the course of the work in these three churches. Only in the case of the stained glass fragments found in the Pantocrator church is a fuller presentation of the material included, owing to the exceptional nature of this discovery.

During the period since the uncovering of the mosaic of the Emperor Alexander² work on a smaller scale has been carried out in Hagia Sophia. This has included further cleaning of the lunette mosaic over the main west door, revealing some new details, and examination of the plaster cornices which yielded interesting results.³

¹ "Notes on the Work of the Byzantine Institute in Istanbul: 1957-1959," *Dumbarton Oaks Papers*, 14 (1960), p. 205f.

² P. A. Underwood and E. J. W. Hawkins, "The Mosaics of Hagia Sophia at Istanbul. The Portrait of the Emperor Alexander," *Dumbarton Oaks Papers*, 15 (1961), p. 187f.

³ An account of the work on the cornices was communicated by Mr. Hawkins to the Twelfth International Congress of Byzantine Studies at Ochrid in September 1961 and will

The work of the Byzantine Institute has been carried forward in all these monuments in close association with Bay Feridun Dirimtekin, Director of the Ayasofya Museum, and with the friendly encouragement and authorization of the Directorate-General of Antiquities in the Ministry of National Education of the Turkish Republic. As previously, the Byzantine Institute is indebted to the Turkish authorities for many courtesies and facilities during the conduct of the work here described. The satisfactory results obtained owe much also to the skill and industry of the Institute's technical staff under the indefatigable leadership of its Assistant Field Director, Mr. E. J. W. Hawkins.

Fenari Isa Camii

Following initial repairs by contractors working for the Evkaf administration, the Institute undertook in 1960, by arrangement with the Turkish authorities, a limited restoration program covering the northern unit of this double church and the east façade of the whole group. Since the fire of 1917 the building had been in a ruinous condition, in which it was possible to observe that the north church was the earlier of the two, as Ebersolt had previously supposed.⁴

be published in its forthcoming Acts. The work carried out in the summer of 1962 on the north tympanum and in the southwest buttress is summarily described in Cyril Mango, *Materials for the Study of the Mosaics of St. Sophia at Istanbul*, Dumbarton Oaks Studies, VIII (Washington, D. C., 1962), p. 141.

⁴ J. Ebersolt and A. Thiers, *Les églises de Constantinople* (Paris, 1913), p. 222f.; N. Brunoff, "Ein Denkmal der Hofbaukunst von Konstantinopel," *Belvedere*, 51-52 (1926), p. 217f. Van Millingen had supposed the south church was the earlier of the two (*Byzantine Churches of Constantinople* [London, 1912], p. 132f.).



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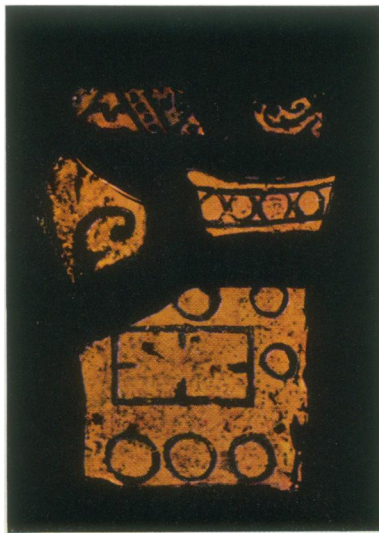
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Istanbul. Fragments of Painted Window Glass from the Zeyrek Camii (nos. 1-5),
and the Kariye Camii (nos. 6-9) (scale *ca.* 1:2.5).

This was confirmed during the systematic examination, accompanied by fruitful excavations, which the late Theodore Macridy undertook in 1929.⁵ The identification of this double building with the two churches of the monastery which Constantine Lips restored in the reign of Leo VI is now generally accepted, and it is thus clear that we are concerned in the north church with that of the Mother of God completed by the founder and dedicated in 908.⁶ Although it retains nothing of painted or mosaic decoration, its architectural ornament of carved marble is of the highest quality and, as the earliest surviving example of the type of inscribed-cross church with a dome carried on four freestanding columns, it occupies a key place among monuments of Byzantine architecture.

The dome was reconstructed and the four columns were removed in 1636, after an earlier fire, at which stage the weight of the superstructure was transferred to two wide arches linking the bema walls (fig. 30) with the west wall. On removal of the wall plaster in 1929, the four main vaults were seen to be in a very precarious condition; when the Institute's work started they were open to the sky at more than one point, and the whole superstructure was in a deplorable state (fig. 26). The vault of the south arm was repaired from below, but the condition of the other three was so bad that timber forms had to be constructed in order to remove the decayed brickwork from above and re-form the vaults with new material.

The weakness that had developed in the main apse had been mitigated by the expedient of walling up the greater part of the tall three-light window (figs. 28 and 30). Before this masonry was removed a reinforced-

concrete tie was inserted above the capitals, in the position originally occupied by a timber equivalent (fig. 30). After the masonry fillings had been removed, window frames of reinforced concrete were provided to consolidate the damaged marble mullions and to carry new glazing (fig. 31). The similar three-light window in the north wall on the axis of the dome, which likewise had been partly walled up, was similarly repaired (fig. 32). In this case some evidence of the form of the original window frames was observed on the sides of the marble mullions. Apart from the separate upper panels which rested on the tie-beams, there were three more subdivisions in the lower sections. The middle subdivision with a heavier frame, of marble no doubt, probably carried some form of opening casement, while those above and below would have been fixed, the lower possibly unglazed. This window consequently provides a link between early examples of this arrangement, which is found in the gallery windows of Hagia Sophia, and those of later date in the Catholicon of Hosios Loukas.⁷

A serious crack had opened in the semi-dome of the apse, above the south light of the window (figs. 28 and 30), to bridge which, and to prevent future movement, it was decided to insert a reinforced-concrete collar round the apse, concealed between the inner and outer cornices. This was done section by section, removing each block of the inscribed outer cornice in turn. During this process it was found that at this same point the original builders of the church had provided a strong tie of wrought iron, much of which was well preserved.

The four diminutive roof-chapels of quatrefoil plan, which Brunoff first reported,⁸ were in dilapidated condition. These are located above the angle compartments of the church and extend in the case of the eastern pair into a second compartment over the Prothesis and Diaconicon. Lacking their original superstructure, they had been concealed in the pyramidal Turkish roof that was destroyed in the 1917 fire. Enough

⁵ Macridy's unpublished report is due to appear in *Dumbarton Oaks Papers*, 18, by kind permission of the Archaeological Society of Athens, with whom it had been deposited.

⁶ The south church is that dedicated to St. John the Baptist which the Empress Theodora added after the death of her husband Michael VIII in 1282. The outer narthex, extending across both the churches and continuing along the south side of that of St. John, is an even later addition. It was principally to this outer narthex, where the vaulting had fallen, that the repairs instituted by the Evkaf authorities had been directed (figs. 26 and 27).

⁷ E. H. Swift, *Hagia Sophia* (New York, 1940), pl. x, A; R. W. Schultz and S. H. Barnsley, *The Monastery of St. Luke of Stiris in Phocis* (London, 1901), pl. 8.

⁸ Brunoff, *op. cit.*, figs. 14-16.

remained to permit the original form of their vaulting to be established and in part restored. Evidence was found for small domes, probably with drums, over the compartments above the Prothesis and Diaconicon, in the shape of the remains of substantial masonry bases, octagonal in form, akin to that of the main dome. Over the Diaconicon this dome-base was completed, but not the dome itself (fig. 29), while the northeast chapel, which is no longer accessible, was left unroofed. The south wall was raised to its original height and, with the original level of the cornice established with reasonable certainty, this was re-formed and carried round the east end also. The terrace roof was then relaid over the reconstructed vaults (fig. 29).

At the west end, the gallery over the narthex had been entirely destroyed. The ruined abutments of its arches surviving on the west wall of the church were therefore raised to form a series of buttresses (figs. 26 and 27). For the same reason the cornice, which would have returned along the west wall of the gallery, was carried along the west wall of the church. The parapet which had crossed the opening from the gallery into the west arm of the church was restored, and the lunette above it closed with a window frame.

In the north and south gables enough survived to show that these had even larger lunette openings, not three separate lights to correspond with the triple windows below. But, since these lunettes are too wide for single window panels, it seems most probable that each was divided by a pair of mullions, like those existing in the somewhat earlier church known as Sts. Peter and Mark.⁹ Mullions were therefore provided, and frames to carry new glazing (fig. 32).

A doorway, and over it a tall arch, had once opened from the northeast compartment of the church into a lateral chapel adjoining the Prothesis. Since this chapel no longer

exists, these openings were closed with masonry. The corresponding openings in the northwest compartment were found to consist of a wall recess below and a window above; for it was confirmed by excavation that at this point no annex had adjoined the church. The recess was re-formed and the window reopened and furnished with a frame of the standard type (figs. 27 and 32).

The main apse of the adjoining thirteenth-century church was also repaired. The original fenestration, which subsequent alterations had almost completely obliterated, was restored and the damaged mullions strengthened by renewal of the ties above the capitals and by insertion of reinforced-concrete frames to carry new glazing (figs. 28 and 29).

Zeyrek Camii

In the south church of the Pantocrator group, the cleaning and conservation of the elaborate *opus sectile* floor, which had been started in 1954,¹⁰ was continued and has now been completed. The cleaning has failed to remove discolorations in the marble, caused evidently by the lighting of scattered fires upon it: much of the yellow marble has turned red and much of the white has been blackened. The further damage which the floor had sustained by the extraction of panels and disks of porphyry and verd antique for use elsewhere had at some time been made good with a patchwork of plain marbles. All this extraneous material has now been removed and the blank areas filled with a uniform terrazzo of neutral color with ground white marble aggregate; into this the main lines of the missing elements of the design have been incised. Numerous dislodged pieces of marble and mosaic belonging to the floor were found during the work and where their original positions were beyond doubt they have been replaced. In the preserved areas of the floor loose or damaged pieces of original material have been reset.

The scheme of the design of the central square under the dome (fig. 2) has previously

⁹ Kocamustafa Camii in the quarter of Ayvansaray: Van Millingen, *op. cit.*, pl. LI and fig. 65; Ebersolt and Thiers, *op. cit.*, pl. xxxi. Sheik Murat Mesciti, which was destroyed by fire in 1917, provided another example of this gable treatment: A. G. Paspates, *Βυζαντινὰ Μετέμεινα* (Constantinople, 1877), p. 382.

¹⁰ Cf. P. A. Underwood, "Notes on the Work of the Byzantine Institute in Istanbul: 1954," *Dumbarton Oaks Papers*, 9-10 (1956), p. 299f. and figs. 114-116.

been described.¹¹ Final cleaning of the spandrels of *opus sectile* revealed that the vine motifs and the birds and beasts they contain have in nearly all cases lost their incised interior drawing through abrasion of the surface (fig. 6). In a few cases small human figures can now be recognized in the smaller scrolls of the rinceaux, including two warriors carrying shields in the southwest spandrel of the circle occupying the northwest angle compartment. The plan of the floor which has now been prepared (fig. A) indicates the layout both here and in the subsidiary areas. This also shows, in dotted line, the scheme of the design in areas where the floor has not survived, but where it can be established with reasonable certainty.

The symmetry of the central square does not extend outside it. The four broad panels which frame it and link the four columns supporting the dome¹² are not the same, those on the east and west sides being considerably richer. The latter, for example, have *opus sectile* animals in the spandrels of "ground" found at the junction of the circular with the rectangular panels. Again, beyond these borders, while the treatment of the floor in the east and west arms of the cruciform *naos* is similar and ornate, the lateral arms are thrown together with the corner compartments to form two "side-aisle" units of simpler design, extending from the lateral entrances from the narthex right up to those which opened into the Prothesis and Diaconicon.¹³ This emphasis on longitudinal axes in the floor represents a curious adherence to basilican forms in conflict with the centralized scheme of the superstructure.

The treatment of the floor in the east arm was obscured by an oblique step added after the construction of the mibner, in front of the original step that marks the position of the Iconostasis.¹⁴ Its removal revealed con-

siderable remains of a circular central panel (lacking its disk of verd antique) with concentric borders of *opus tessellatum*, the outer one knotted with those of two lateral rectangular panels of porphyry. The latter have an inner *opus sectile* border of white animals on a black ground and an outer border of *opus tessellatum*, the whole unit being framed as usual with broad bands of verd antique. The "ground" of the three panels, seen as four spandrels round the central circle and as narrow outer border strips round the two rectangles, is filled with other *opus sectile* designs. The spandrels have rinceaux of white marble forming four large figured roundels, the subjects of which are tentatively identified as labors of Samson. In the northeast roundel (fig. 3) a heroic figure is seen before the entrance to a building with battlements and, at his feet, what could be the doors that Samson removed from the city gate of Gaza (Judges 16: 3). The northwest roundel (fig. 5) seems to represent Samson dispatching some diminutive Philistines with the jawbone of an ass (Judges 15: 15). The southeast roundel is missing. The subject in the southwest roundel has been described as a centaur,¹⁵ but there seems little doubt that this was a group of a quadruped and a human figure, one of whose legs is preserved and who has a club poised above his head, unless it is a bud of the rinceau, while his mantle floats behind him: Samson and the Lion it may be, although in Judges 14: 6 he had "nothing in his hand."^{15a} Apart from these "Samson" roundels, some of those of intermediate size on either side of them also have figure subjects, but they are much abraded. These roundels have grounds of a slate-like

¹⁵ P. Schweinfurth, "Ein Mosaik aus der Komnenenzeit in Istanbul," *Belleten*, XVII, p. 489f., fig. 1; *idem*, "Der Mosaikfussboden der Komnenischen Pantokratorkirche in Istanbul," *Archäologischer Anzeiger* (1954), cols. 253-260, fig. 1.

^{15a} The flowing mantle recurs in the representation of this scene in the eleventh-century Octateuch Vat. Cod. gr. 747 (fol. 248v); but there the miniaturist shows Samson strangling the lion, following, so Weitzmann suggests, a model depicting Herakles slaying the Lion of Nemea (Weitzmann, "Survival of Mythological Representations in Early Christian and Byzantine Art," *Dumbarton Oaks Papers*, 14 [1960], p. 58 and fig. 25).

¹¹ *Ibid.*, p. 300. The figural elements are all designed to be seen from the west.

¹² The existing masonry columns are Turkish replacements for red granite originals, seven feet in circumference, which were still in position in the mid-sixteenth century (P. Gylles, *De topographia Constantinopoleos* (Lyon, 1561), p. 195f.

¹³ Already described by Underwood: *op. cit.*, p. 300.

¹⁴ *Ibid.*, fig. 115.

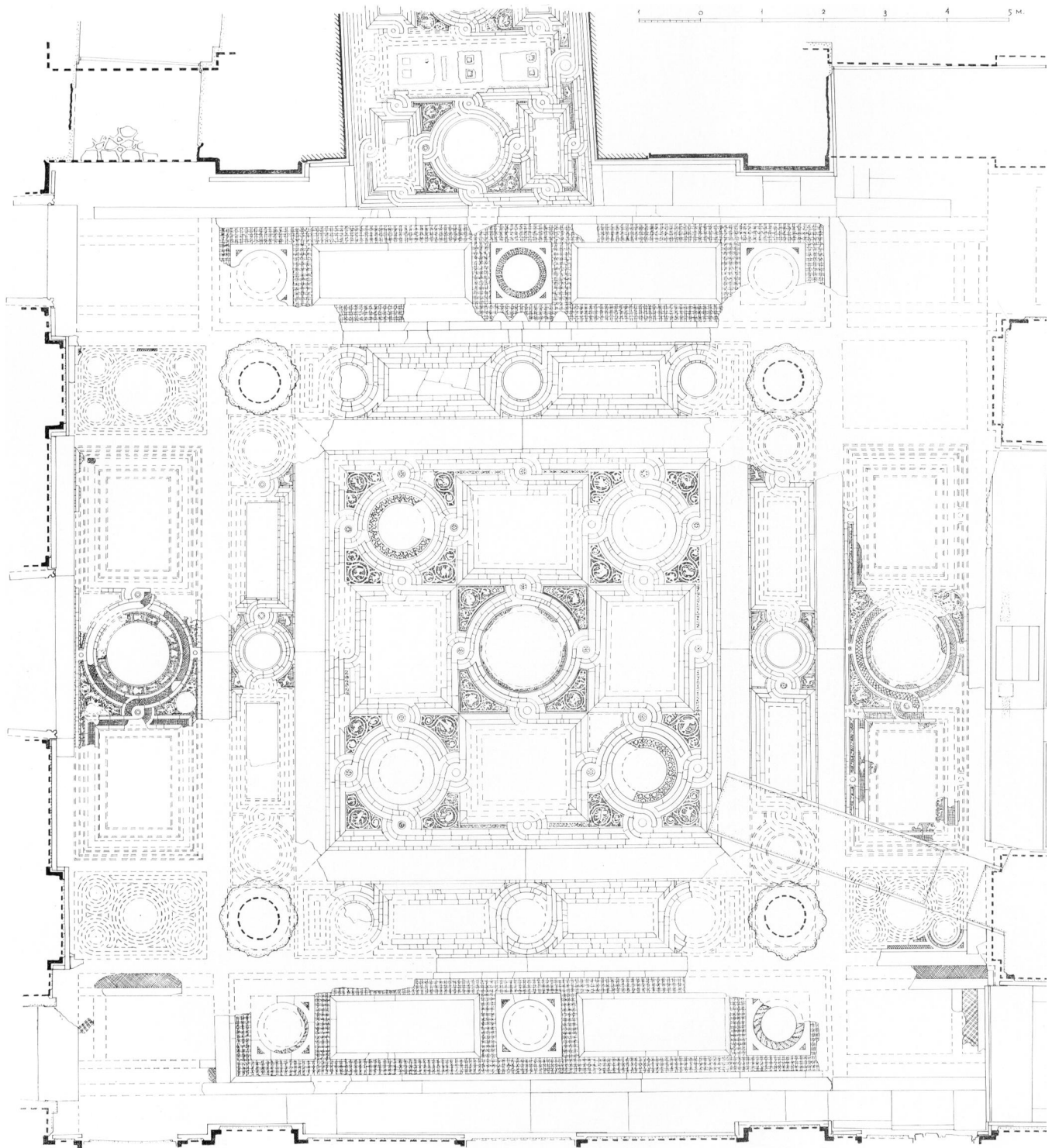


Fig. A. Zeyrek Camii (Pantocrator). Floor of South Church

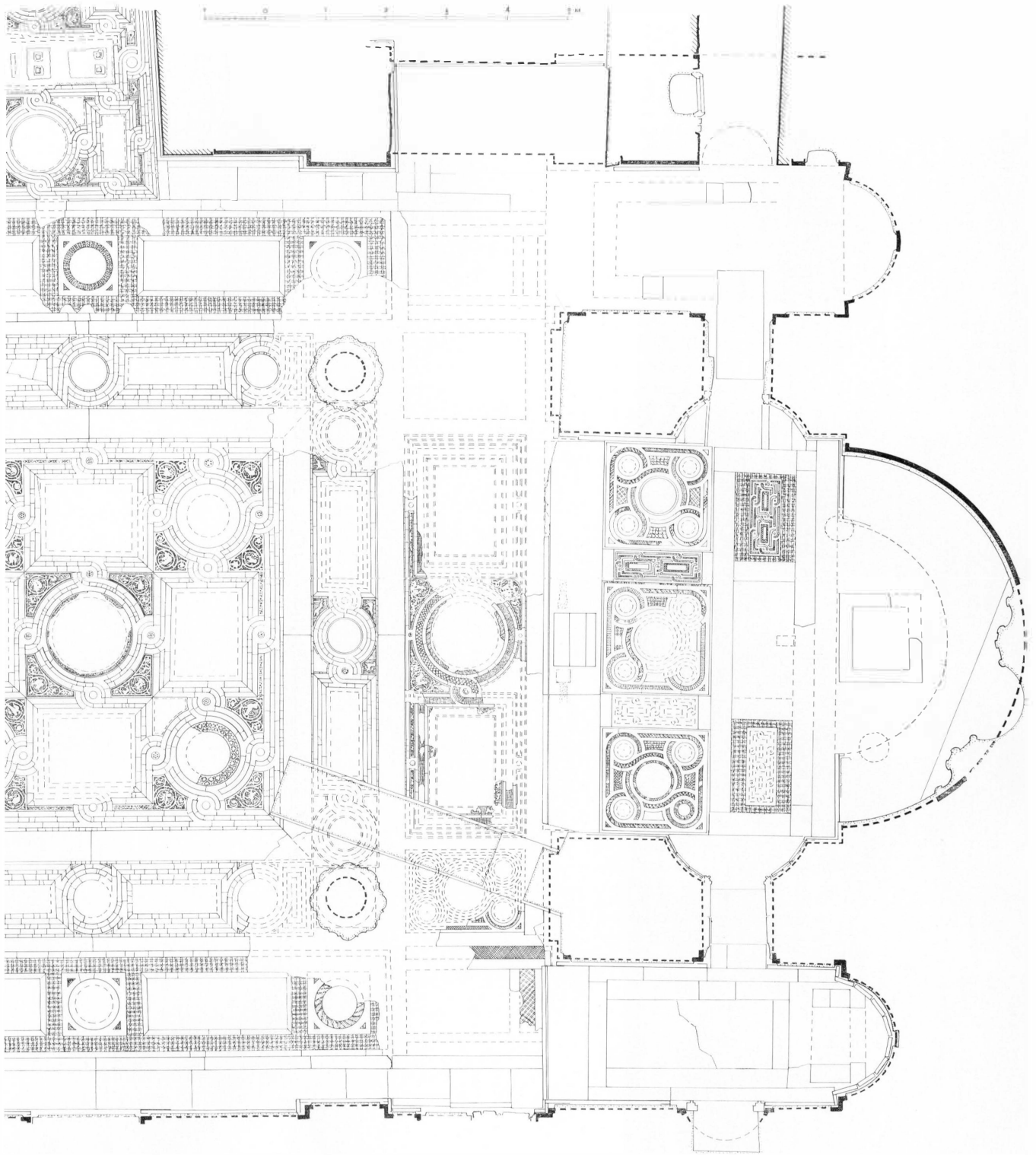


Fig. A. Zeyrek Camii (Pantocrator). Floor of South Church

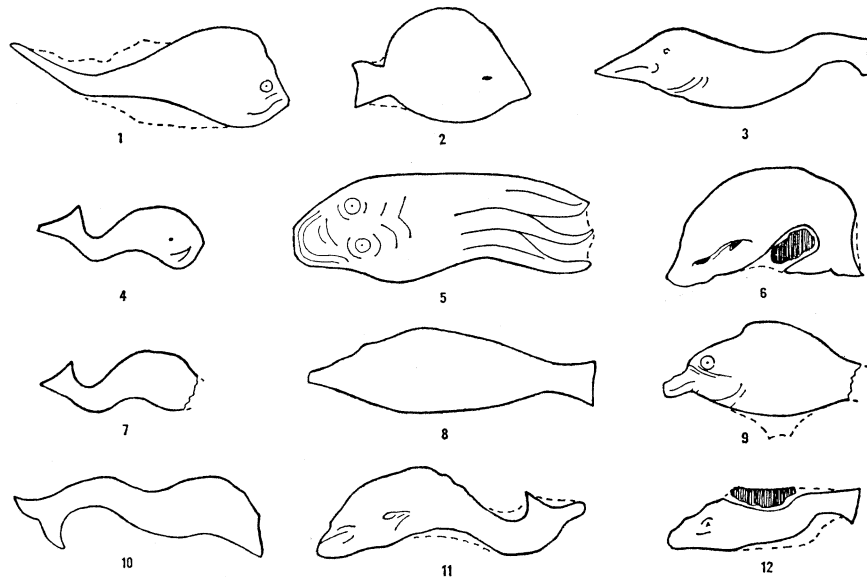


Fig. B. Zeyrek Camii (Pantocrator). Fish Units of White Marble from *opus sectile* Borders, found in Platforms against West Wall (scale 1 : 3)

material alternately green and red. Along the narrow strips that border the rectangular panels, preserved only on the west side, are seen the abraded white forms of quadrupeds prancing, or fish swimming on the black marble ground. At one point two rowboats and a human swimmer evoke Nilotic scenes in the late antique tradition.

In the west arm a corresponding circular panel had previously been revealed as the central feature. It retains its disk of porphyry and round it an inner border of *opus sectile* with, at the cardinal points, four busts, doubtless the Seasons carrying appropriate attributes and framed by pairs of knotted columns. Between them, in four groups of three, are the signs of the zodiac. The Seasons' busts, all of which have their heads to the east, have black marble grounds; the signs, alternately black and red. As in the east arm, the outer tessellated border is knotted to those of rectangular panels on either side. In the spandrels are the remains of similar rinceaux forming roundels with figure subjects, including what appears to be a battle scene with horsemen, on red and green grounds.

The lateral panels in the west arm were largely concealed by two solid platforms which had been built for the purposes of the mosque on either side of the central west

door. On the removal of these platforms, it was found that the area of the floor they occupied had been almost entirely destroyed before their construction. Happily, traces in the setting-bed on which the original floor had been laid and fragments of the floor marbles themselves found embedded in the platforms proved that here, as in the east arm, the lateral panels had an inner *opus sectile* border of animals and, outside their outer border of *opus tessellatum*, the same strips of *opus sectile* "ground" with processions of fish. Several of the units of close-grained white marble from the fish borders were found among the material used to form the platforms (fig. B). These are up to 0.04 m. thick and some have traces of the engraving by which eyes, mouths, and gills were rendered, as well as the tentacles of a squid. The white marble is not always trimmed away round the silhouette, but areas outside it are carried low enough to receive the black marble units of the ground, often no more than 0.01 m. thick. This makes it clear that the ground was set as a secondary operation. A few of the fish units had pieces of the black marble ground still attached to them.

Animals and other units from the broader inner borders of *opus sectile* were found in

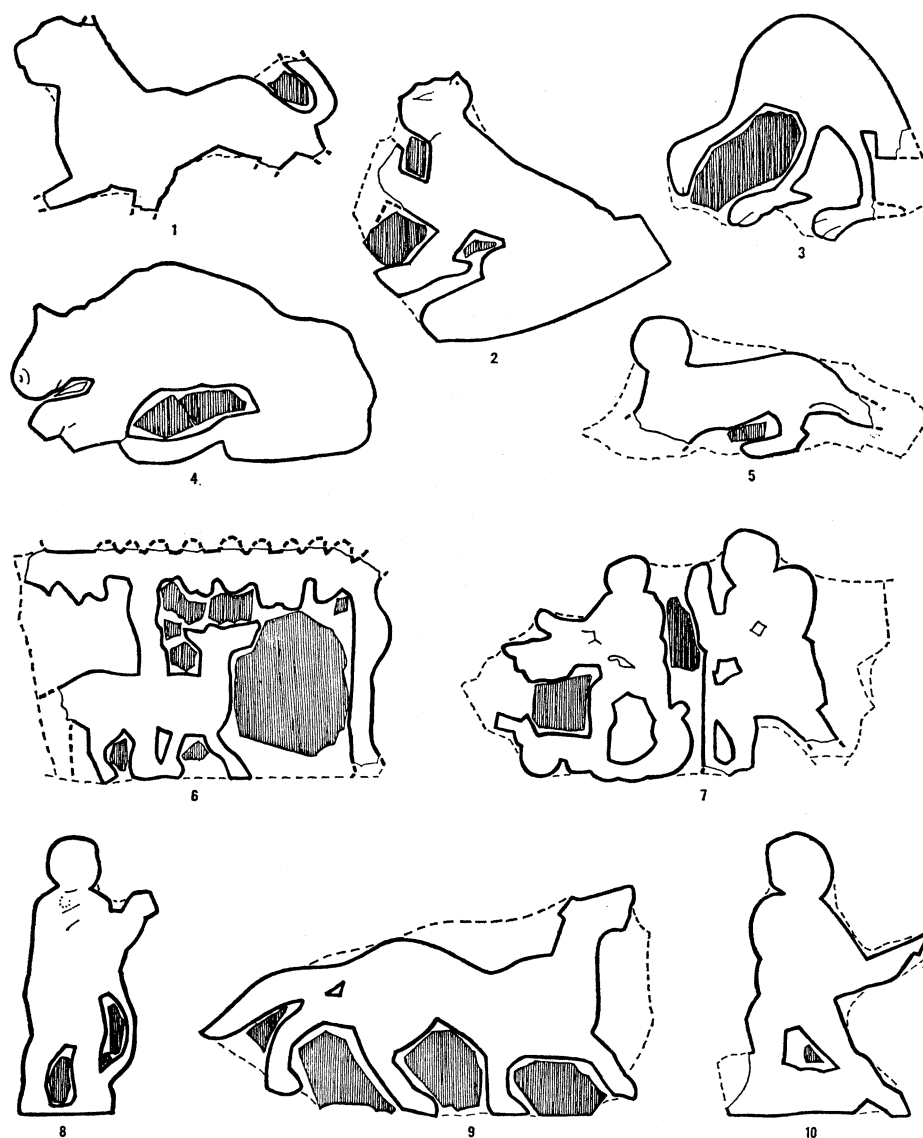


Fig. C. Zeyrek Camii (Pantocrator). Animal and Hunter Units of White Marble from *opus sectile* Borders. Nos. 3, 6, and 7 found in Vault under Bema; Remainder in Platforms against West Wall (scale 1:3)

the same place and also in one of the vaults discovered under the bema and described *infra* (fig. C). From these it is clear that, although only animals were found *in situ* in the floor, they in fact formed part of hunting scenes, from which four huntsmen have been recovered as well as one piece with the tree trunks and spreading foliage of a woodland scene. Some of these also retain sections of the background material, always a dark grey to black marble; a few were reset in the bor-

ders of the lateral rectangles in the east and west arms, whence they doubtless came.^{15b} One piece is distinct in that it represents a bird, not a beast, and retains a piece of green marble in the ground (fig. C, 3). The latter is used, together with porphyry, in the spandrels of the central square, where birds also figure, and to one of these the bird fragment apparently belongs.

^{15b} *Infra* note 42.

The elaborate three-panel units occupying the east and west arms of the church are of the same width as the central square and thus do not extend to the "side-aisle" units. Good evidence for the scheme of the floor in the four small intermediate areas exists immediately to the south of the mibner. Here there are remains of an elongated panel comprising a large central disk and four smaller ones, now missing but probably of verd antique, linked to each other and to the border by interlacing straps of *opus tessellatum* edged with yellow marble. A corner fragment of the corresponding north-west panel was found *in situ* under the more northern of the two Turkish platforms and traces of the central disk and other elements of the southwestern panel were exposed on the setting-bed under the other.

Three panels of the same characteristic design were used in the bema along the east side of the iconostasis, the position of which is marked by traces left on the broad step of Phrygian marble by the bases of the shafts that flanked the central opening. These five-disk panels of the bema floor are almost square and retain two of the larger central disks and one of the smaller ones, all of verd antique. Between them were two small rectangular panels (only one preserved) of a dull red marble with inserted bands of *opus tessellatum* forming an intricate pattern: a pair of rectangles with borders knotted to each other and to the surrounding frame. There were two more of these small, red panels (one only preserved), one on either side of the altar. This occupied the large blank area in the center, where, beneath the Turkish flooring, was disclosed a small, box-like receptacle for the relics deposited at the *enkainia* (fig. 1). The receptacle was formed of slabs of white marble and measured 0.30 by 0.17 m.; it was some 0.15 m. in depth. In the debris which filled it were numerous chips of a white marble slab, 0.06 m. thick, doubtless from the altar table. Of this some larger fragments with sections of rim were found in pockets below nearby areas of the floor that had been disturbed and relaid. East of the altar virtually nothing of the original floor has survived, for here it suffered severely from the demolition of the synthronon, of which the outline was disclosed when

extraneous material was removed from the floor and when a second oblique step in front of the mihrab was reduced (fig. 1). The distance from the bottom step of the synthronon to the revetment of the apse wall was no more than 1.10 m., which would allow for raising the bench only two steps above the bema floor.

Similarities in technique and in the design of the interlaced borders link this floor with that surviving in poor condition in the Stoudion basilica and may throw some light on the date of the latter.¹⁶ In one of its "ground" areas a gryphon, in the same close-grained white marble, remains *in situ*, retaining its interior engraving and set round with porphyry. Uspenskij, in his account of this floor, described figures from classical mythology in the same technique (Orpheus with the animals, Bellerophon and Chimaera, running centaurs), and also a genre scene (a bullock-cart) and an eagle and hare group.¹⁷ All these seem closely related to the hunting scene and zodiac borders of the Pantocrator floor, as well as to the birds and beasts that inhabit the rinceaux of its central square and the more elaborate figured roundels in those of the east and west arms. Possibly the Stoudion floor formed part of the redecoration of the basilica which the ex-Emperor Isaac Comnenos carried out when in retirement in the monastery after his abdication in 1059.¹⁸

On the other hand, this type of pavement evidently originated earlier. The famous

¹⁶ For a good general view showing the borders framing large rectangles of plain marble, see Schweinfurth, "Ein Mosaik...", *op. cit.*, fig. 2; for details: W. Salzenberg, *Altchristliche Baudenkmäler von Constantinopel* (Berlin, 1854-55), pl. IV (with errors); Ebersolt and Thiers, *op. cit.*, p. 11, fig. 2. Schweinfurth considered this floor Palaeologan ("Ein Mosaik...", *op. cit.*, p. 496; "Der Mosaikfussboden...", *op. cit.*, col. 255). Uspenskij believed it contemporary with the fifth-century basilica (*Izvestija Russk. Arkeol. Instit. v Konstantinopole*, 15 [1911], p. 255).

¹⁷ *Ibid.*, p. 256. Compare also the *opus sectile* units, including a hunting scene and genre subjects, which Panchenko and Kluge found near Rhodosto (*Izvestija Russk. Arkeol. Instit. v Konstantinopole*, 16 [1912], p. 380 and pl. IV).

¹⁸ Scylitzes in Cedrenus II (Bonn, 1839), p. 650.

πορφυροῦν ὀμφαλίον in the floor of the Chalke¹⁹ and the kindred disks in the floor of colored marbles which Theophilus provided for the Justinianos²⁰ indicate that something of the sort was already in vogue in the ninth century. Some of the colorful but imprecise accounts of the pavements of that time are suggestive of figure-subjects in the antique tradition;²¹ while the description by Constantine Porphyrogenitus of the pavement in the Nea of Basil I, with its marble plaques bordered by a variety of mosaic bands, would fit many a Comnenian floor.²²

During the work on the floor the opportunity was taken to make tests in the Turkish plaster covering the walls and vaulting, to see if this concealed any remains of the original decoration, but with negative results. Yet it is probable that, above the cornice which corresponds in height to the main capitals, the whole surface was covered with mosaics,^{22a} or possibly, in some subsidiary areas, with frescoes. The original marble revetments of the lower parts of the walls have survived only in the bema, where those on the north side have now been cleaned and consolidated. Within the heavy plaster projection at its crown much of the original marble cornice was found, carved with stylized acanthus leaves (fig. 12).

The lowest row of grey-veined marble panels on the apse wall is a Turkish addition, inserted to mask the scar left by the removal of the synthronon. The height of the latter was given by the bottom of the original revetment, 0.91 m. above the bema floor. The

sill of the east window, in its original position in the section north of the mihrab was 1.95 to 2.00 m. above the floor at the wall face, and sloped up to 2.17 m. at the center, giving a total height of about 7.85 m. for the glazing in the three lights of the window. It was observed that the apse wall, like the rest of the church, was constructed of brick with alternate courses concealed in the pointing. The moulded skirting of verd antique at the foot of the revetment was extended along the two ends of the synthronon, on the chord of the apse, and a small part of the white marble facing of the lower step—there would have been room for two steps only—was found *in situ* (fig. 1). The synthronon is shown restored in figures D and F.

The skirting of verd antique, concealed behind plaster, was also found to exist in much of the rest of the church, where the revetments have not survived. This is helpful in establishing the position and size of the original openings, which partial removal of the wall plaster has further clarified (fig. D). On the south side the skirting is interrupted at four points: a shallow niche in the diaconicon, later enlarged into a cupboard, and three doorways, one at the center of the south arm and one in each of the corner compartments, all three now blocked. That from the southeast compartment communicated with a sort of lateral narthex entered from the east, which has not previously been recorded.²³ Two bays of cross-groined vaulting were surveyed, similar to the vaulting of the narthex proper and forming an integral part of the original construction. The section outside the central door is obstructed by a later cistern. The area outside the door from the southwest compartment is not vaulted and may always have been open to the sky, for the southernmost bay of the narthex drew light from it, through a window now blocked.

The three doorways in the west wall remain in their original form.

²³ This passage does not substantiate Brunoff's restoration of a five-aisle plan for the church in its original form (*Viz. Vrem.*, 2/27 [1949], p. 180, fig. 13). The windows opening above its terrace roof can never have been part of a high arcade leading into an outer aisle, as he suggested (*Revue des études grecques*, 39 [1926], p. 16f. and note 3).

¹⁹ Probably part of the restoration under Basil I.

²⁰ *De cerimoniis*, II, 2 (Bonn, 1829), p. 524; Constantine Manasses (Bonn, 1837), p. 166, 1. 3871.

²¹ E.g. that of the Pharos church as described in the Tenth Homily of Photius: "The pavement, which has been fashioned in the forms of animals and other shapes by means of variegated tesserae, exhibits the marvellous skill of the craftsman, so that the famous Pheidias and Parrhasius and Praxiteles and Zeuxis are proved in truth to have been mere children in their art." (C. Mango's translation: *The Homilies of Photius, Dumbarton Oaks Studies*, III [Cambridge, Mass., 1958], p. 187).

²² *Vita Basilii* in Theophanes Continuatus (Bonn, 1838), p. 326.

^{22a} See the monograph by Moravcsik quoted *infra*, note 24.

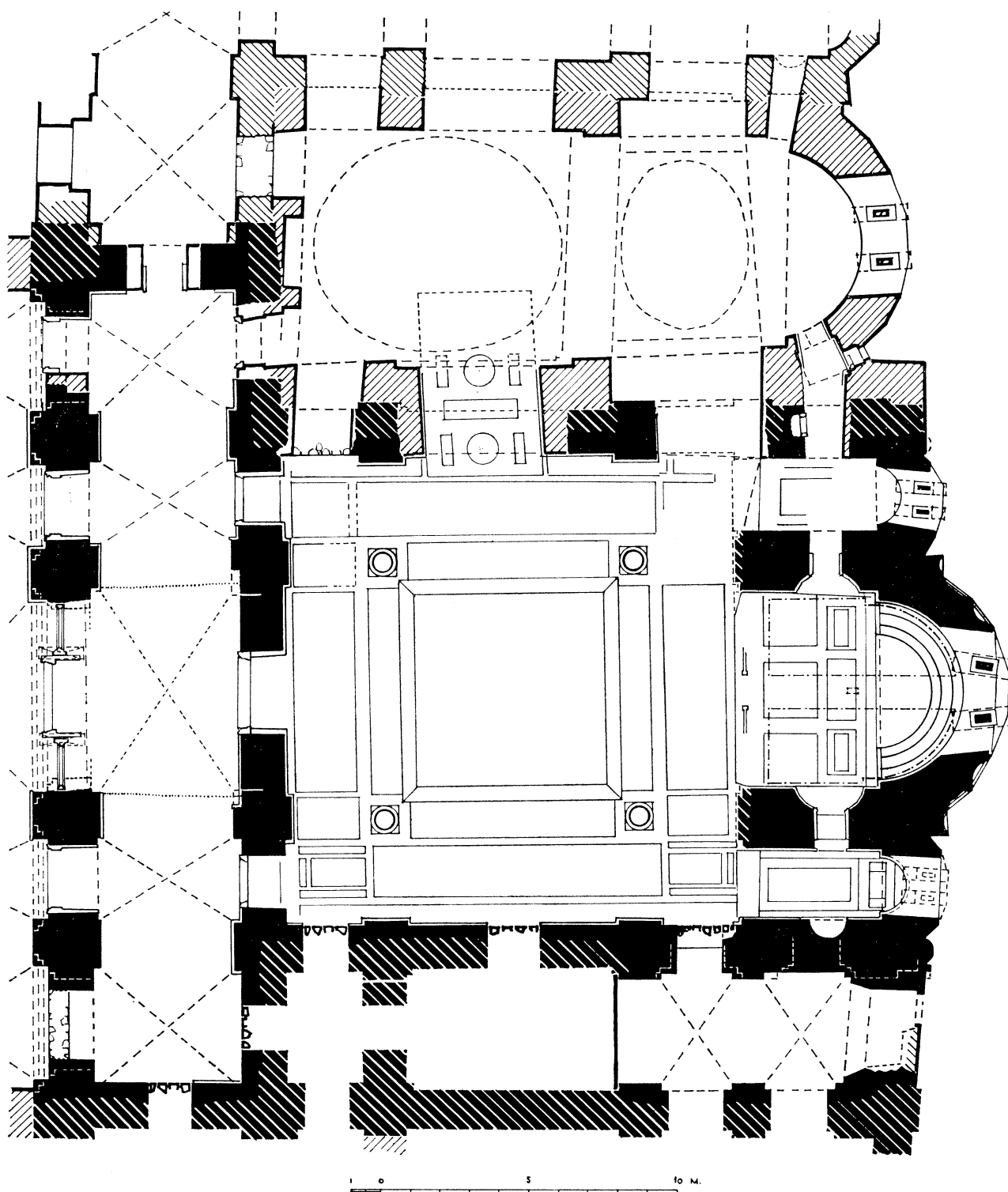


Fig. D. Zeyrek Camii (Pantocrator). General Plan, excluding Outer Narthex and North Church
(scale 1:200)

The openings in the north wall have sustained alterations on more than one occasion to improve communication with the middle church. This is known from the *typikon* granted by the Emperor John II in 1136 to have been dedicated to the Archangel Michael and to have been constructed as an imperial mausoleum ἐν σχήματι ἡρώου between the original church and monastery of the Pantocrator and the church of the Eleousa which he had added to it.²⁴ Marble revetment skirtings were found on both sides of the large opening which leads from the north arm of the south church into Heroön, now used as a mosque. But these skirtings are only half the height of those elsewhere in the south church and the opening itself is clearly secondary, since the brickwork has been cut to form it and faced on either side with massive limestone masonry to carry its heavy arch. Moreover, the elaborate floor within this archway cuts slightly into and thus postdates that of the south church, with which it is not aligned. Without doubt this is the arch, forming a wide entrance from the church of the monastery, close to which stood, in the Heroön, the black marble sarcophagus where the Emperor Manuel I was buried in 1180.²⁵ His biographer relates in a closing passage that, shortly after Manuel died, there was set up close to his tomb the porphyry slab on which it was believed that the body of Christ was anointed after the

Crucifixion. This passage offers an explanation for a curious feature in the paving of the archway, for this is designed round a central cavity 2.45 m. long by 0.64 m. wide, containing three blocks of marble each with a pair of dowel holes for supports set in lead. This is indeed suggestive of the seating for the ἐπὶ κρηπίδος . . . λίθος ἐρυθρὸς ἀνδρομήκης.

The floor in the archway was previously uncovered and has been recorded.²⁶ It employs the same techniques and principles of design as are used in the south church, though, if the above interpretation is correct, it was set some fifty years later. On either side of the cavity it comprised a disk, probably of verd antique, flanked by rectangles of porphyry, joined by the usual knotted straps to the borders as well as to each other. The spandrels are filled with rinceaux in *opus sectile*, akin to those of the main floor, which here also encircle animal groups such as a gryphon attacking a deer (?). In the four small rectangular spaces, to the east and west of the cavity, Salzenberg shows on his plan figure-groups which it seemed to him represented the Labors of Hercules.²⁷ In the *one* case where his and Traquair's plans can be compared and checked against what exists, Salzenberg's is seen to be unreliable. His interpretation remains doubtful, however apt in a context adjoining the porphyry slab and Manuel's tomb.²⁸

²⁴ Cf. the drawing in Salzenberg *op. cit.*, pl. xxxvi, 2 and Traquair's plan in Van Millingen *op. cit.*, p. 234, fig. 76.

²⁵ *Op. cit.*, p. 36; followed by O. M. Dalton, *Byzantine Art and Archaeology* (London, 1911), p. 429, and C. Diehl, *Manuel d'art byzantin* (Paris, 1925), pp. 460, 465. At the time of writing, the cleaning of this section of the floor has yet to be completed. To the west of the cavity rather more is preserved than is shown in figure A.

²⁶ The porphyry slab which was placed here for veneration served also to commemorate the achievements of the Emperor; for when it arrived from Ephesus had he not carried it on his own shoulders from the harbor of the Bukoleon to the Pharos church in the Great Palace? (Niketas Choniates, *loc. cit.*).

Salzenberg's plan shows that the section of floor relaid after the installation of the slab extended into the Heroön to a point only 1.6 m. short of its east-west axis. If at this point it stopped against the podium of Manuel's black sarcophagus, this would have occupied a central position in the building (See fig. D).

²⁴ A. Dmitrievskij, *Opisanie liturgiĭeskikh rukopisej, I Typika* (Kiev, 1895), p. 677, from an eighteenth-century MS. (Compare the extracts from the original document with the Emperor's signature published by Lambros Νέος Ἑλληνισμῶν V [1903], p. 393f.). The *typikon* appears to have served as the basis for the *ekphrasis* composed for the feast of the Encaenia (4th August), which is preserved in a menaion of 1385 in the National Library, Athens (MS 551). This gives, in lines 26–27, the name of the architect responsible for the whole project—Nicephorus Bezaleel (D. Kampouroglou, *Μνημεῖα τῆς ἱστορίας τῶν Ἀθηναίων*, III [Athens, 1892], pp. 127–131; G. Moravcsik, *László Iednya és a Bizánci Pantokrator-monosotor* [Budapest-Istanbul, 1923], pp. 43–47).

²⁵ τοῦ δὲ τοίχου τοῦ νεῶ εἰς ἀψίδα περιεχθέντος ἢ περὶ τὴν σορὸν εὐρεῖα διαστέλλεται εἰσοδος (Niketas Choniates, ed. Bonn [1835], p. 289). I assume that περὶ has the same sense here as in the immediately preceding phrase referring to the Emperor's burial—οὐκ ἐν αὐτῷ τῷ τεμένει ἀλλ' ἐν τῷ περὶ τοῦτον ἡρώω.

The smaller opening from the northeast compartment into the Heroön was evidently formed likewise when the latter was constructed, for it has a similar low skirting on the west side, which was made by cutting back the original brickwork to align with the adjoining pilaster. Later, evidently to meet some requirement of the mosque, this opening was enlarged eastwards and provided with a plain marble floor. In the northwest compartment there was at first no opening at floor level, at which the original masonry survives to form a step, and none was made when those further east were formed. The present opening is Turkish. Finally, the narrow passage linking the prothesis with the apse of the middle church was cut through the north wall of the former to lead into a very small chamber, probably a treasury, which had been formed in the otherwise solid masonry of the added apse.²⁹

In the narthex, which with the gallery over it is an integral part of the south church, and in the outer narthex which by its brickwork is a Comnenian addition to it,³⁰ the wall plaster was removed some years ago during repairs undertaken by the Evkaf authorities. Examination of the brickwork thus exposed reveals that the central bay of the narthex was at first covered by a cross-groined vault at the same height as those of the other bays, and carried a continuous gallery floor giving access to the arcade opening into the west arm of the church below the gable window.³¹ The gable window was blocked and this arcade was rendered inaccessible when the dome was added over the central bay of the gallery; at this juncture the vaulting below it was cut away to light the narthex. These changes were doubtless made when the outer narthex was added, masking the external doors

and windows of what became the inner narthex.³²

It can also now be seen that the bays at the two extremities of the narthex originally contained arcosolia, not doors, in their west walls. The conversion of the northern one into a doorway with marble architrave and cornice evidently followed the addition of the outer narthex, by which stage the Heroön had doubtless been completed, providing improved accommodation for burials. The door frames of the three original entrances into the narthex, in these cases of red Phrygian marble, may well have been introduced from some earlier building at the same stage, for in the case of the lateral entrances the original brickwork has been cut to receive them and one of the lintels is too long. Lunette windows had existed from the outset above the arcosolia, like those over the three doors. In all five bays of the original façade the multiple arches enclosing the lunettes were trimmed back to receive plaster, and the pilaster-buttresses that carried them were filled out to carry the vault-springings of the outer narthex when this was added.

In the southern arcosolium no threshold or door frame was introduced and the foundation which carried the back wall of the recess can still be seen in the floor (fig. D). If at the time of the alterations it had already received a tomb, this would explain the preservation of this arcosolium in its original form, probably throughout the Byzantine period. Can this have been the tomb of the Empress Irene, who was buried at the Pantocrator in 1124, before the monastery and its other adjuncts had been constructed? It will be shown below that this south church is beyond doubt that of the Pantocrator, which she founded.

²⁹ This was done within the Comnenian period, to judge by the characteristic brickwork with concealed courses used in the facing with which the east side of the passage was lined, and by the marble revetment with which both passage and chamber were furnished at this stage.

³⁰ An exonarthex is mentioned in the *typikon* (Dmitrievskij, *op. cit.*, p. 660f.).

³¹ Van Millingen, *op. cit.*, p. 242, fig. 80; Ebersolt and Thiers, *op. cit.*, pl. XLIII.

³² The situation was later reversed by inserting the wooden floor which still unites the two severed sections of the gallery and robs the narthex of daylight. Such a floor may already have been inserted under the Palaeologues, for this would explain the drastic Byzantine alterations around the main entrance from the outer narthex. These were clearly designed to admit more light, by providing windows on either side of the door and three more above (Van Millingen, *op. cit.*, pl. LXII; Ebersolt and Thiers, *op. cit.*, p. 199, fig. 101).

It has also been revealed that the whole of the north bay of the inner narthex is homogeneous with the rest and does not incorporate earlier structures in its north and east walls, as some have supposed.³³ Furthermore, although the narthex of the north church remains plastered, preliminary tests in its southernmost bay have established that this was built against, and not anterior to, the narthex of the south church.

It is thus apparent in the narthex as well as at three points in the north wall of the south church that this was constructed before the Heroön, not after, as was formerly believed.³⁴ From the awkward relationship between the Heroön and the north church, whose south gable windows are blocked by the dome of the former, it has long been recognized that the north church was the older of these two and originally a free-standing building. So long as the south church was regarded as the latest of the group, the conclusion was unavoidable that the northern one was the earliest, the original Pantocrator church founded by the Empress Irene (1118–1124); for, as has been noted, the Eleousa church, like the Heroön, is specifically assigned in the Typicon to her husband John II, who completed the whole establishment after her death.³⁵ However, the recent work on the south church has proved beyond doubt that this was not the last of the three buildings. Was it then the first? It antedates the Heroön, which was formed by roofing over the space between two previously free-standing churches, but only now can it be demonstrated which of these two is the earlier. *Prima facie*, it is reasonable to identify the south church as the initial church of the Pantocrator, to which the monastery was added and which gave its

name to the whole establishment; for it is the larger of the two, and, as the discovery of the sumptuous marble floor has proved, it was also the more ornate. Furthermore, adjoining it on the south are remains of substantial Comnenian buildings attributable to the monastery, whereas the north church seems to have had a continuous portico along its north wall, fronting an open space, to judge by the corbels which it still retains.

That the south church was in fact the original Pantocrator church was confirmed by a preliminary examination of the south end of the narthex of the north church, i.e. the area where the three bays of the narthex proper are linked to that of the south church by a fourth bay. This bay, we have already noted, abuts against the end wall of the narthex of the larger church (fig. D). On the other hand, it is architecturally homogeneous with the three bays to the north and is aligned with them and the rest of the north church, which is at a slight angle to its neighbor. Yet previous plans show a division between the east wall of the bay in question, and the southwest angle of the north church, suggesting that, as the Heroön was built between two isolated churches, the connecting bay was built between two isolated narthexes.³⁶ However, removal of the plaster at this critical point revealed no such break in the brickwork and showed the east wall of the connecting bay to be continuous with the west wall of the north church. Furthermore, on the threshold and jambs of the opening in this wall there are clear indications that originally it was continuous and that the opening was made only after the subsequent construction of the Heroön. There is thus structural confirmation that the north church is the later of the two: that of the Eleousa, built by the Emperor John II after completing Irene's church of the Pantocrator.

The removal of the oblique Turkish step in the east arm of the south church, that of

³³ As shown in Van Millingen, *op. cit.*, fig. 77; also by Brunoff in *Viz. Vrem.*, 2/27 (1949), p. 128, fig. 11.

³⁴ Van Millingen, *op. cit.*, p. 234 and fig. 76; O. Wulff, *Altchristliche und Byzantinische Kunst* (Berlin, 1914), II, p. 486. Ebersolt and Thiers did not accept this view, correctly regarding the funerary chapel as the latest of the group (*op. cit.*, p. 192f.). Brunoff reverted to it (*Revue des études grecques*, 39 [1926], p. 16; *Viz. Vrem.*, 2/27 [1949], p. 187f. and fig. 11).

³⁵ See p. 342 and note 24 *supra*. Wulff was mistaken in assigning the funerary chapel to Manuel (*op. cit.*, p. 486).

³⁶ Van Millingen, *op. cit.*, fig. 77; Ebersolt and Thiers, *op. cit.*, pl. XLII. For the information which follows I am indebted to Mr. Ernest Hawkins and Bay Ercüment Atabay, who independently re-examined the point of junction and reached the same conclusion.

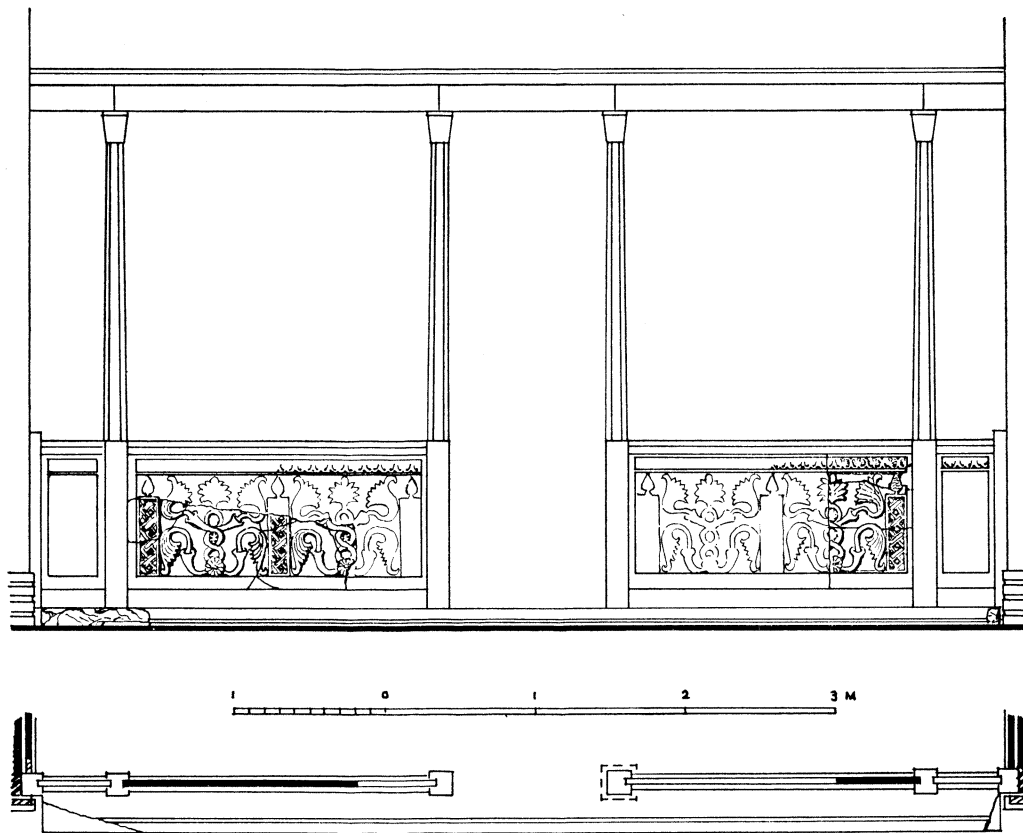


Fig. E. Zeyrek Camii (Pantocrator). Reconstruction of Iconostasis of South Church (scale 1:50)

the Pantocrator, brought to light a number of fragments of marble panels carved in high relief (figs. 7-8). These fragments had been laid face down on the floor in front of the original step of the bema, a position suggesting that they formed part of the iconostasis. Some evidence of the form of the iconostasis exists on the Phrygian marble step. To the north of the central opening, the position of which is marked by a sinking now filled by plain pieces of white and red marble, an area 0.15 m. square has a rough surface, and extending northward from it there is a band 0.12 m. wide in the same condition (figs. A and E), the positions respectively of one of the posts and one of the panels. On the south of the opening the panel position is similarly marked, but to receive the base of the post a shallow cutting 0.23 m. square has been made. At some stage, it would seem, an extraneous, larger post replaced the original one on the south side. There is no evidence on the step of the width of the

panels, nor of the positions of the posts that held their outer ends; the space available for them between the posts by the entrance and the revetment skirting is 2.64 m. on the north side and 2.50 m. on the south.³⁷ The panel from which one group of fragments comes (fig. 7) must have been approximately 2.07 m. wide, the other (fig. 8) 1.95 m., assuming that each had two of the entwined trumpet design-units. The fact that these dimensions would leave almost exactly the same margin to be accounted for at each end (0.57 m. on the north; 0.55 m. on the south)

³⁷ The entrance to the bema is a little off-center because it was aligned with the central axis of the floor of the church, which does not coincide accurately with that of the bema. The panel fragments are 0.055 and 0.065 m. thick and, since the unworn bands on the step are 0.12 m. wide, the panels would have rested on an intermediate plinth. They would doubtless have been capped by a coping. Both these members are shown in the restoration in fig. E.

does suggest that the two panels from which our fragments come were designed to fit the two unequal spaces of the iconostasis. Part of the gap remaining at each end would have been taken up by an outer post, presumably again 0.15 m. square, and the remainder by a small panel 0.42 m. wide approximately, as shown in the tentative restoration.^{37a} It may be that this unusual position for the outer posts was dictated by the maximum span the lintels would bridge.

It is conceivable that the iconostasis was removed during the Latin occupation and subsequently reinstated, in which case there would be no certainty that our panels formed part of the original scheme. But the eclecticism of their bold design, inspired in part by Early Byzantine models, seems more at home in the twelfth century than in the stereotyped Palaeologan repertory. The border at the top is particularly curious, with the upper arm of a cross appearing in each unit in the cleft of a highly stylized split-palmette motif (fig. 8).

A panel of white marble reused in the Turkish revetment of the bottom of the apse wall, previously masked by the synthronon, proved to be carved in high relief on the hidden face (fig. 9). It belonged to the same series as the two incomplete panels forming the parapets of the mimber platform.³⁸ This series is of approximately the same height as the panel in figure 8 and, though it is cut in even higher relief, has the same boldness of design and some similarities of detail. They are therefore, at first sight, candidates for the parabemata sections of the iconostasis. There, assuming that the doorways and their flanking posts were centered on the same axis as the floor-panels of the "side-aisles" and that further posts would have stood against the outer walls, there would have been room for a panel about 0.84 m. wide in each case. For this position the newly-discovered panel would have been too wide; for if it contained only two of the

vase design-units, its width would have been some 1.29 m., and there are grounds for supposing that it contained not two but three design-units and consequently measured some 1.81 m.³⁹ This width would meet the requirements of the bema section of the iconostasis in the north church, to which all three sections of panel with the vase motif may tentatively be assigned.

The other relics of the marble furniture of the building that have been built into the mimber deserve a separate study. It is easy to visualize the two western supports of its superstructure, each formed of a pair of knotted colonnettes and each retaining its capital, in an icon-frame on the west face of one of the walls dividing bema and parabemata, a position where this type of support was much affected. But the other two, plain octagonal marble shafts, one of them retaining its capital, may well have come from the iconostasis of one or other of the churches. They have been used as a basis for the reconstruction in fig. E.

A large slab of verd antique, measuring 1.05 by 1.46 m., had been introduced into the floor with other alien material to fill the area previously occupied by the altar. On its removal it was found to be a complete balustrade panel, simply ornamented on the concealed face in low relief (fig. 11). The central disk with the cross was formerly covered, perhaps by silver sheeting, to judge by the holes round the circumference and at other points; in some of these holes bronze nail-points were found still lodged in the remains of wooden plugs. The material and the extreme simplicity of design recall the sarcophagus popularly regarded as that of the foundress of the Pantocrator, which until recently stood outside the church^{39a} but has now been placed in the outer narthex of Hagia Sophia. This panel and some matching chancel posts built into the mimber doubtless come from the Heroön.

^{37a} Compare the small terminal panels of the iconostasis of the Episkopi church in Santorin, a foundation of Alexius I (Orlandos, *Ἀρχαῖον τῶν Βυζαντινῶν Μνημείων τῆς Ἑλλάδος*, Z' [1951], p. 193, fig. 8).

³⁸ Van Millingen, *op. cit.*, pl. LXVII; Ebersolt and Thiers, *op. cit.*, p. 205, fig. 105 (both showing the south side).

³⁹ On our panel a rosette in the border at the top coincides with the axis of the right-hand vase motif, suggesting that this was the center of a three-unit panel. Secondly, this piece and that on the south side of the mimber would together form the greater part of such a panel.

^{39a} At no great distance from the position suggested above for Irene's tomb.

During investigation of the traces of the synthronon revealed below the Turkish flooring, two small circular shafts were found, 0.40–0.50 m. in diameter and constructed in brick. The greater part of that on the south, which was unobstructed, lay within the area of the synthronon foundation (fig. 1); the lip of that on the north, which was full of debris, had been cut upon construction of the synthronon. Both must have been closed and concealed from view on completion of the building. They communicated with two vaults, conterminous with the bema and divided by a wall on the axis of the church (dash-and-dot lines, fig. D). The walls of these vaults are partly of rough masonry, partly of brick with alternate courses concealed in the pointing (fig. 14) in the characteristic manner employed throughout the Pantocrator group. Their vaulting was constructed in brick, much of it in the small square type used for the concealed courses, and employed the skew-back technique and raking beds which dispensed with centering (fig. 13). There was no means of access to these vaults except by the shafts, which were closed on their completion. They had never been plastered and their function was simply that of substructures raising the bema floor to the desired height above the level previously obtaining in this area. The floor of the vaults was found 5.0 m. below that of the bema, covered with mortar droppings and other debris of their original construction.^{39b}

Both vaults had been discovered and reopened when the synthronon was demolished upon conversion of the church for Moslem use. Into both had been thrown a considerable quantity of almost pure twig charcoal, on top of which, in the case of the northern vault only, had been thrown all sorts of debris accumulated during the conversion works. The shafts had then been reclosed and concealed by the new Turkish paving of the apse. A test of the debris in the north vault proved so promising that the

whole of it was excavated in August 1961. The date at which the debris was deposited was confirmed by the coins recovered, none of them later than the Turkish conquest. The latest were a bronze coin of the Emperor John VIII (1423–1448)⁴⁰ and one of a type struck at Edirne and ascribed to Murad II (1421–1444).⁴¹

Apart from masonry and brick debris, much marble was found in the vault: from the revetments and from the floor,⁴² including the *opus sectile* units already mentioned (fig. C, 3, 6, and 7); from the posts and panels of balustrades, including fragments from the types illustrated in figs. 7 and 9; from the steps of the synthronon and from other furnishings. There were also numerous fragments of mosaic and fresco from the walls and vaults, and of glass from the windows. In the charcoal layer below the debris there was a considerable quantity of glazed pottery, some of it decorated Byzantine ware, some plain and crude. It represents presumably what was current in the city immediately before and immediately after the conquest. With the pottery were fragments of plain glass vessels: lamps, beakers, and stemmed drinking glasses. The charcoal layer, like the burnt patches on the floor of the church, doubtless derives from the brushwood fires of the fullers and cobblers who first occupied the church after the conquest.⁴³ The pottery and other small objects swept into the vault with the charcoal suggest a general clearance of the building at an early stage of the

⁴⁰ Type of W. Wroth, *Catalogue of the Imperial Byzantine Coins in the British Museum* (London, 1908), II, p. 642, nos. 12–18.

⁴¹ Similar to Khalil Edhem, *Müze-i Humâ-yûn, Meskûkât-i qadîmeh Islamiyeh Qatâloghu*, I (Constantinople, 1334 H.), no. 159; and to Ismâ'il Ghâlib, *Taqvîm-i Meskûkât-i 'Othmâniyeh* (Constantinople, 1307 H.), no. 50. I am indebted to Dr. G. C. Miles and Dr. A. I. Dikigoropoulos for assistance in identifying the coins.

⁴² Including one element that previously was entirely missing: the rinceau border of *opus sectile* used round the northeast and southwest roundels in the central square, where the principal sections found were reset (fig. 2). These and other restored sections can be identified on the floor by comparison with figure A, where only what was preserved *in situ* is shown.

⁴³ Ducas (Bonn, 1834), p. 318.

^{39b} Similar vaults probably exist below the Prothesis and Diaconicon, and possibly below other parts of the church also. I was unable to examine the "cistern below the church" formerly entered by a long flight of steps in the forecourt to the west (Van Millingen, *op. cit.*, p. 211, note 1).

conversion works, which were not long delayed.⁴⁴

Except for the window glass, which in view of its exceptional interest is described in some detail, the present report can touch on only a small selection of the finds from the vault. Among the marbles was the greater part of what can only be a font (fig. 4). The shaft is decorated with a horizontal band of stylized acanthus foliage in low relief and within the bowl is a blessing hand. A marble vessel with vertical sides, 0.38 m. in diameter, retains part of an inscription carved on the rim round a sinking formed in the top to receive a lid: $\text{I}\omega\text{N}\omega\text{N}\omega\text{C}\alpha\text{P}\tau\text{O}\text{N}\alpha\text{I}\theta\text{I}$. A marble reliquary 0.21 m. long with a cross in low relief on one long side (fig. 10) could well be that which was deposited in the *loculus* found on the site of the altar.

Notable among the smaller finds from the charcoal layer were two fragments of cloisonné enamel. The first is the lower part of a silver-gilt medallion, (estimated diameter 0.065 m.) with a bust probably representing Christ Pantocrator (preserved height 0.038 m., average thickness 0.003 m.). Our fragment includes the neck, but no part of the head or beard, and the whole of the bust except the outline of the right arm and shoulder (fig. 16). The left hand, holding a rotulus, is well preserved, as are the very elongated fingers of the blessing hand. These flesh areas are pink, dulled with a grey tint, probably through contact with fire. The chiton is blue, faded to grey with a blue-green tint, and the himation is a well preserved red. The latter is looped over the right shoulder in the characteristic semicircle.

The medallion was *en cabochon* and made of impure silver, as were the cloisons, where under the action of fire the lead content has

welled-up between the enamels and thrown off the capping of gold (fig. 17). The latter remains clearly visible only between the fingers of both hands. Enamels of good quality with silver cloisons are known from the eleventh century⁴⁵ and silver-gilt was used even on the most sumptuous reliquaries and enamelled icons. The Comnenian panels in the Pala d'Oro, including that of the foundress of the Pantocrator church,⁴⁶ are likewise of enamel and silver-gilt. Consequently, the use of what might be regarded as an inferior material for our fragment does not exclude the possibility that it featured in the original equipment of the church where it was found.

The second fragment, of pure gold and much finer workmanship, is a strip 0.139 m. long and only 0.001 m. thick, inclusive of the enamel (fig. 18). It bears one line, possibly the last line, of an inscription in iambic trimeters. It refers evidently to the Mother of God, "through whom salvation always proceeds,"

$\delta\iota\ \eta\varsigma\ \alpha\epsilon\iota\ \pi\rho\acute{o}\epsilon\iota\sigma\iota\nu\ \eta\ \sigma\omega\tau\eta\rho\iota\alpha.$

The letters are white, the ground is blue faded to grey, and filled with fine scrollwork (fig. 19). The strip is broken at the left end but complete at the right, where it is mitred to join a similar strip at right angles. Consequently, the inscription may have extended round all four sides of a rectangle, a form suggesting the frame of an icon or the border of an enamelled book-cover. The exceptionally fine quality of this fragment seems to warrant its attribution to the period before the disaster of 1204. The next group of finds from the vault to be described suggests that objects of value of that period, or fragments of them, did survive in the church through the Latin Occupation and until the Turkish conquest.

Four fragments of carved rock crystal found in the vault belong to two or more vessels (fig. 15). The largest is from the top of a sack-shaped ewer (fig. 15a), 0.09 m. in

⁴⁴ That the mosque was established by the Conqueror is known from his multiple charter in the Topkapu Saray Library (no. 16/1141), which provides for Zeyrek Camii and eleven other foundations (Tahsin Öz, *Zwei Stiftungsurkunden des Sultans Mehmed II Fatih* [Istanbul, 1935], p. 11). Hafiz Housein, in reporting its foundation by the Conqueror, states that it was named after the first Muderris Zeyrek Mohammed (*Hadikai* [Constantinople, 1864], I, p. 118. Translations in J. von Hammer, *Geschichte des Osmanischen Reiches*, 9 [Pest, 1833], p. 471., no. 233; J. de Hammer, *Histoire de l'empire ottoman*, 18 [Paris, 1843], p. 22, no. 233).

⁴⁵ E.g., the two plaques in the Metropolitan Museum, New York, nos. 17.190.713 and 714, illustrated in W. Froehner, *Verrerie antique, emailerie et poterie appartenant à M. John Pierpont Morgan*, IV (Paris, 1903), pl. 284.

⁴⁶ J. Beckwith, *The Art of Constantinople* (London, 1961), fig. 137.

diameter at the top, with a cufic inscription below the rim. The letter forms and the style of the decoration below proclaim this a Fatimite work, probably of the eleventh century. A smaller fragment (fig. 15 b) is from the bottom of such a vessel, with a maximum diameter of some 0.17 m., and if the two belonged to the same ewer it would have been some 0.20 m. high. The smaller fragment has a break at the left suggestive of a vertical handle. It is clear that they come from a vessel or vessels of a type represented in the Treasury of St. Mark's,⁴⁷ which invites the suggestion that the ewers in Venice formed part of the loot taken from the Pantocrator church in 1204.

Two more fragments of rock crystal were found in the vault: the one from the narrow neck (0.028 m. in diameter at the lip), ornamented with a rinceau band, of a long-necked flask (fig. 15 c); the other comes very probably from the globular body (maximum diameter about 0.09 m.) of the same vessel (fig. 15 d). The latter is carved with the same formalized rinceaux with pointed trefoils as are found on the larger of the two ewer fragments, but it comes from a much smaller vessel.

Apart from the stained glass fragments, the vault produced a considerable quantity of the lead comes of H-section in which they had been set. There was one complete unit still enclosing its lunette of blue glass (fig. L, 6). Some of the comes were double, set side by side with a thin iron rod (0.004–0.005 m. in diameter) in the cavity formed between their cores, in order to strengthen the individual panels that made up the windows. A band of lead of a semicircular section (0.007 by 0.0035 m.), attached to two comes 0.095 m. apart, and a thin iron rod (0.003 m.) adhering to the tape of another indicate that the panels received subsidiary reinforcement after glazing. One came had still attached to it a pair of lead straps, illustrating how the panels were attached to the saddle-bars; while a length of saddle-bar was found (diameter 0.006 m.) with a length of strap and comes impacted on it.^{47a}

⁴⁷ A. Pasini, *Il Tesoro di San Marco* (Venice, 1886), pl. LI, no. 115 and pl. LII, no. 118.

^{47a} A curious example of colored glass mounted on pierced lead plaques has been

Examination of one of the marble mullions of the apse window revealed the sockets for the saddle-bars near the outer face, 0.22 apart (fig. F). In the absence of iron armatures, of which no evidence was found, the need for the subsidiary reinforcement of the glazing is evident from the size of the openings of this window alone. Their height is nearly 8 m., the width of the center and lateral lights 1.40 m. and 1.0 m. respectively; though above the capitals these widths narrow considerably.

The glass is of five basic colors: a strong blue (24%), colorless (24%), amber-yellow (18%), emerald green (16%), and a purple-red (13%). There is some variation in tone, partly due to variations in thickness, but only one that was certainly intended: a dilution of the purple-red to give pink (5%). Of the total quantity of fragments examined⁴⁸ over one-quarter are unpainted. Doubtless some of these have broken from unpainted areas of painted glazing. This may be true of all the amber-yellow and purple-red, of which there are very few unpainted fragments. Others, which are distinguished by variations of color, including a pale yellow unknown in the painted fragments, and a consistent thinness, sometimes as little as 0.001 m., probably belong to a different window system employing colored but unpainted glass.⁴⁹ But of the unpainted colorless glass fragments, which outnumber the painted by about two to one and constitute more than

reported from Yugoslavia (R. Ljubinković, "Sur un exemplaire de vitraux du monastère de Studenica," *Archaeologica Jugoslavica*, III, pp. 137–141). The only examples of window-glazing in comes of H-lead in the East known to me are those from thirteenth-century Crusader sites in Palestine, e.g., 'Atlit (C. N. Johns, "Excavations at Pilgrim's Castle, 'Atlit (1931–2)," *Quarterly of the Department of Antiquities in Palestine*, IV [1935], p. 133) and Montfort (B. Dean, "The Exploration of a Crusader's Fortress (Montfort) in Palestine", *Bulletin of the Metropolitan Museum of Art*, 1927 pt. ii, p. 42 f.).

⁴⁸ At the time of writing the smallest fragments await cleaning and examination.

⁴⁹ Similar unpainted fragments of thin glass were found at Kariye Camii. They were in position in the remains of plaster panels found in the upper lights of the window in the apse of the Parecclesion and probably represent the original fourteenth-century glazing (see *infra*).

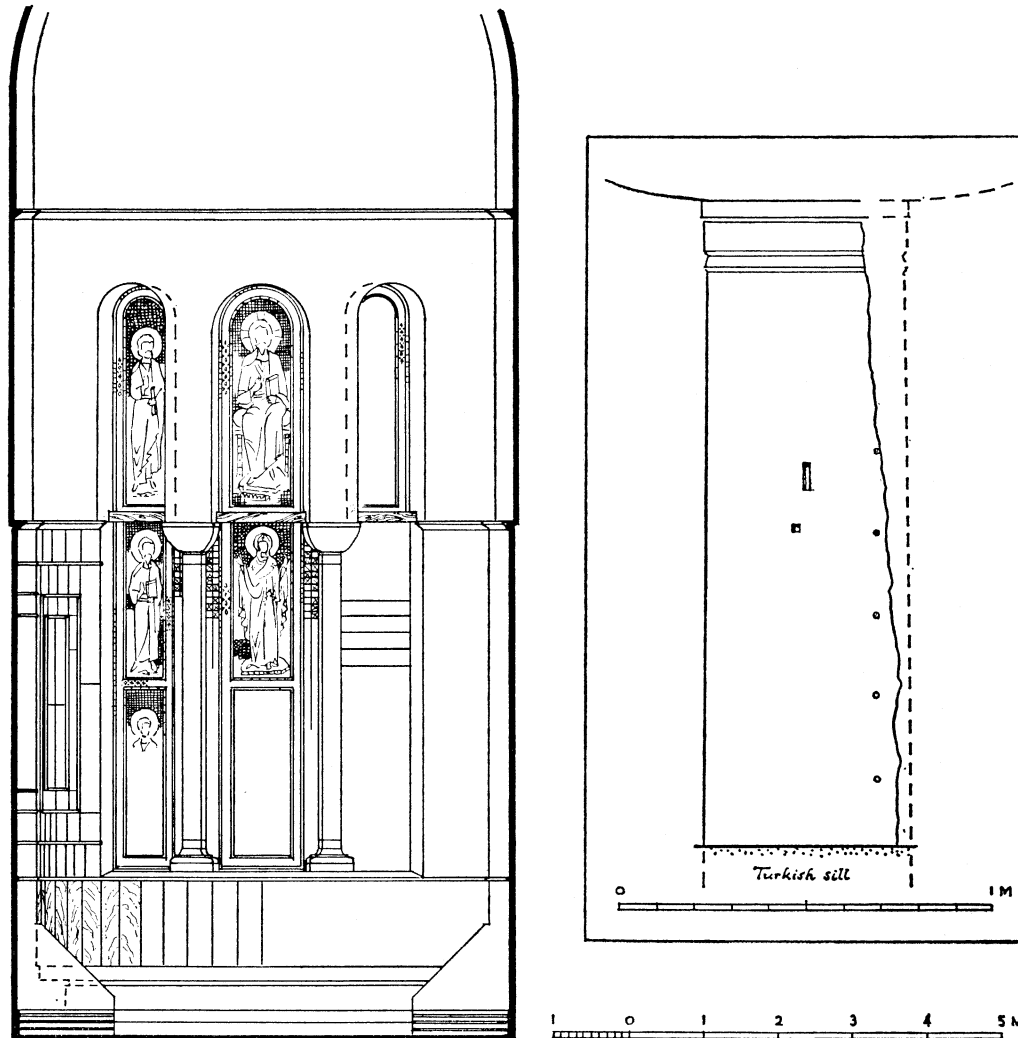


Fig. F. Zeyrek Camii (Pantocrator). Reconstructed Interior Elevation of Main Apse of South Church, showing a Possible Arrangement of Figured Window-Glazing (scale 1:100). Inset-Detail of South Face of South Mullion showing Sockets for Saddle-Bars (scale 1:20)

half the total of unpainted fragments, there is so much that a substantial part of it must have been used in the leaded windows. In particular, a series of rectangular units of thick glass, varying in width from 0.03 to 0.045 m., probably formed a border outside the ornamented area of the glazing.

The glass is almost all of good quality, free from bubbles, and apart from pieces that have suffered by contact with fire has survived in good condition.⁵⁰

⁵⁰ The amber-yellow and the purple-red have tended to develop cloudy areas in the thickness of the glass. The latter, almost

The painted fragments vary greatly in thickness, from 0.001 to 0.005 m., but a high proportion are between 0.002 and 0.003 m. The glass was made in plates, probably in

invariably, has formed an opaque film on both faces which tends to flake off; since this film represents a decomposition of the surface of the glass, it carries the paint with it if it flakes off. In order to photograph the purple-red fragments with back light (frontispiece, 2), it was necessary to cut away the opaque film, not only on the back but also in the unpainted areas of the painted face. Some of the colorless glass has formed a friable sugary crust, leaving only a thin core.

rectangular pans, for the straight edges can be seen at the side of several of our fragments, among them that in figure 20, 7. Here the straight edge of the plate is seen at the right-hand side; at this edge the glass is 0.0042 m. thick but it diminishes to 0.0015 m. at the left. The "quarries," the square units such as figure 22, 9 and 10, were cut from the corners of the plates. Elsewhere the units have been shaped to the required form with the grozing iron. Normally this was very neatly done, forming a bevelled edge all round the unit on the unpainted, outer face. Occasionally, especially on some of the thicker fragments, the grozing shows on both faces, as on the curving side of that in figure 20, 5, where it is rougher than usual.⁵¹

The units also vary greatly in size, which was determined by the exigencies of the design. A number of small size have been recovered complete, apart from that preserved in its lead (fig. L, 6), the smallest measuring no more than 0.019 by 0.008 m. The largest (fig. H, 7) is incomplete, and, as it is grozed only on one side, it was evidently much larger. The fragment with the life-size eye (fig. 20, 2 and fig. G, 1) is grozed only on the right side, which forms part of the profile of the head, and it is reasonable to suppose that the whole face, if not the whole head, was on one piece. As this is one of the thickest fragments (0.004 to 0.0045 m.), the

⁵¹ On the drawings in figs. G-L the grozed edges have been indicated by representing against them in thick line the cores of the comes in which they were set.

unit from which it comes may well have been among the largest.

Forms and ornamental detail were rendered in an opaque enamel paint, normally applied with a full brush on the interior face only, usually opaque, and often forming a film of considerable thickness, as can be judged from the full-size photographs on figs. 20 to 22. The fusing of this paint onto the glass in the muffle kiln has in some cases been incomplete, with the result that it has flaked away.⁵² Consequently, many of the significant fragments cannot be photographed with back lighting (used for those on the frontispiece) nor yet satisfactorily with direct lighting (as figs. 20-22). But in many cases it was possible to reconstruct the original decoration in drawings (figs. G-L), supplementing what is preserved from the iridescent traces of what has been lost.

The use of an opaque paint, admirable for ornamental motifs, presented problems where a third dimension was to be represented. To soften the transition from light to dark and thus suggest a rounded form, a cogged edge was sometimes used, as on the archivolt of an arcade motif (frontispiece, 3; fig. 22, 6; fig. L, 21) and on a curved unit possibly from a larger arch (fig. L, 3). This technique

⁵² Particularly in the case of the blue and green glass. On the amber-yellow fragments, on the other hand, the paint is almost always firmly attached.

Among the painted fragments the various colors were represented in the following proportions: blue 27%, amber-yellow 22%, green 18%, purple-red 16%, colorless 12%, and pink 5%.

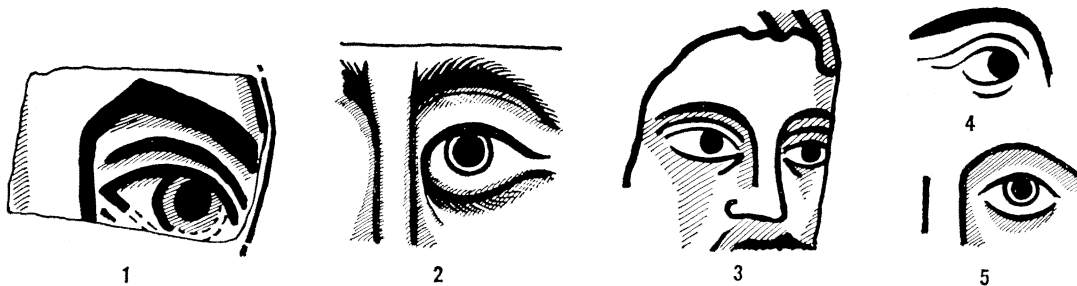


Fig. G. 1 - Zeyrek Camii (Pantocrator). Fragment of Pink Window Glass with Human Eye (scale 1:2). 2 - Augsburg Cathedral. Eye of Prophet Daniel (scale 1:3; after Wentzel). 3 - Darmstadt, Hessisches Landesmuseum. Head of Apostle Bartholomew (scale 1:2; after Wentzel). 4 - Reims, St. Remi. Eye of Bishop Fulcon (after M. Aubert *et al.*). 5 - Cluny Museum. Eye of St. Timothy from Neuwiller (after Viollet-le-Duc)

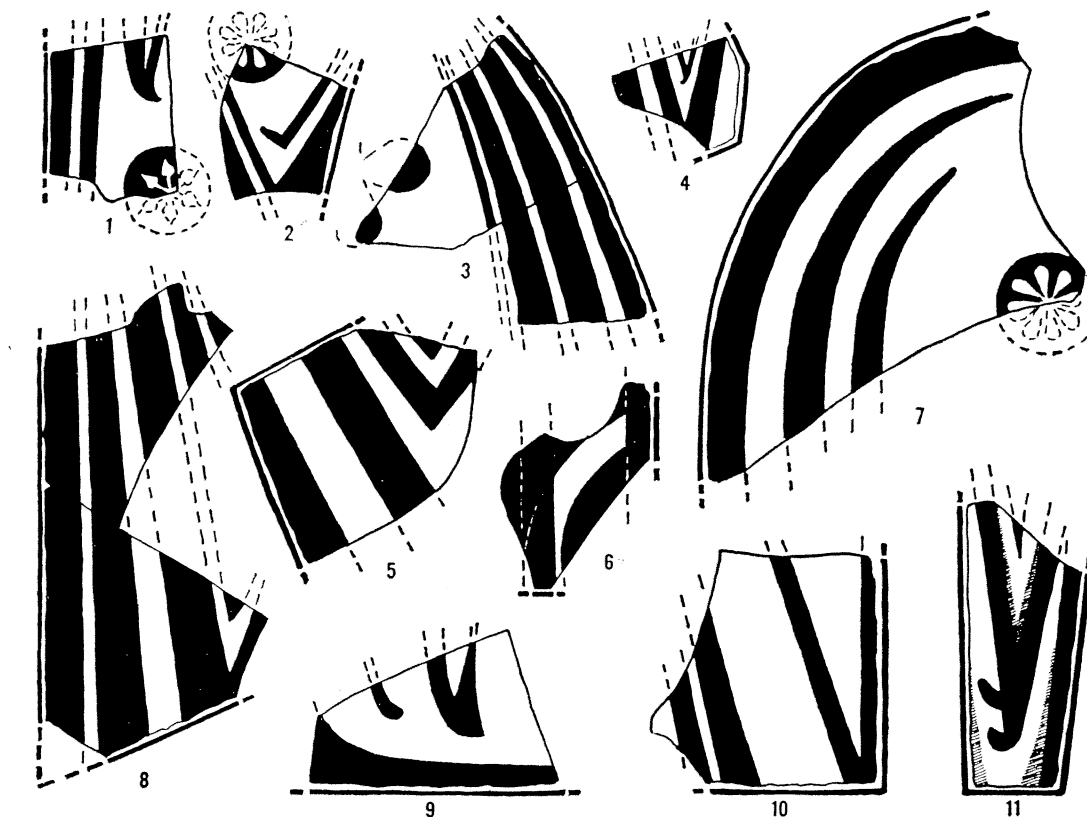


Fig. H. Zeyrek Camii (Pantocrator). Painted Window Glass Fragments from Garments. No. 4, Amber-yellow; Nos. 6, 7, and 10, Green; No. 11, Colorless; Remainder, Purple-red (scale 1:2)

which is used in twelfth-century Byzantine fresco-painting,⁵³ is also found in early western glass.⁵⁴ But for more subtle modelling a thinner, half-tone paint was employed. In the eye fragment, for example, (frontispiece, 1; fig. 20, 2; fig. G, 1) the half-tone is seen

⁵³ E.g. on the mandorla of the Maria Regina at Sant' Angelo in Formis (P. Muratoff, *La peinture byzantine* [Paris, 1928], pl. LXXIX).

⁵⁴ In the Châlons-sur-Marne Crucifixion window, ca. 1150, within the inscribed border of the pseudo-mandorla (M. Aubert *et al.*, *Le vitrail français* [Paris, 1958], pl. XII); in the earliest genealogical windows at Canterbury, ca. 1180, to soften the edges of clouds (B. Rackham, *The Ancient Glass of Canterbury Cathedral* [London, 1949], pls. I and 1); also, with angular cogs, in the medallion borders of an early thirteenth-century window in the upper church of St. Francis at Assisi (H. Wentzel, *Meisterwerke der Glasmalerei*² [Berlin, 1954], p. 26, fig. 13a). Compare the comb-like shading on the staff carried by Moses in Gerlachus' window of the Burning Bush, ca. 1170/80, in Frankfurt am Main (*ibid.*, fig. 19).

below the eyebrow, below both lines forming the eyelid and elsewhere.⁵⁵ It is used on the drapery fragments of colorless glass to soften the fold-lines drawn in the opaque paint (fig. H, 11), as well as for the comb-like motifs on a series of amber-yellow fragments (fig. L, 15-18). On some pieces from purely ornamental contexts the diluted paint has been used to differentiate particular elements, such as the lentoid forms, doubtless representing precious stones, on an amber border (fig. L, 10). The similar forms on a series of jewelled pieces are often filled in the same way with translucent paint, and in some

⁵⁵ Similar softening of facial contours is found even in the earliest surviving Western examples, including the Wissembourg head of Christ usually assigned to the end of the eleventh century (Aubert *et al.*, *op. cit.*, p. 73, fig. 47). Theophilus in his treatise, which was probably composed between 1110 and 1140, specifies three tones of paint (Theophilus, *De Diversis Artibus*, II, xx, ed. by C. R. Dodwell [London, 1961], p. 50).

cases this half-tone has been lightened by scribing with the needle (fig. K, 8, 9, 11, and 13). Likewise in the background of a fragment from a broad jewelled border (fig. 20, 7; fig. L, 26) alternate rows of squares, those that contain quatrefoils, have been differentiated by diluted paint. On some blue pieces this half-tone paint has a yellow tint, on an amber-yellow one it is iridescent; but since it is applied to glass of three colors, it is unlikely that it had any specific color content, and safe to assume that all the painting was essentially monochrome.

Variations of tone on a single piece of glass were occasionally obtained by another technique: that of painting on both sides. On fragments from broad jewelled borders of both colorless and amber-yellow glass the whole area of the ornamented ground on which the stones are reserved is painted on the exterior face in a middle tone (fig. L, 27).⁵⁶

Scribing with the stick-end of the brush or with a needle was practiced sparingly. One instance has already been mentioned: the scribing with the needle of the stones on the series of jewelled rectangles. The needle was also employed on occasion to tidy up the outlines of the painted forms. The quatrefoils on the ground of the broad jewelled border of blue glass were all delineated with the needle through the half-tone paint (fig. 20, 7). The serifs on the inscription fragments seem too narrow to have been rendered with the brush alone (frontispiece, fig. 22, 1). On one fragment the painting has been retouched with both implements: a piece of amber-yellow glass with an area of paint lightened by vertical scribing (fig. L, 28). Here the broad straight lines appear to have been removed by the stick, and the narrow zigzag lines between them by the needle.⁵⁷

⁵⁶ In the West this technique was used for special effects at various dates, particularly by the Alsatian masters (J. J. Gruber in Aubert *et al.*, *op. cit.*, p. 65). In the Canterbury window of the Miraculous Draught of Fishes the fishes are drawn on the interior face where out of the net, but on the exterior where seen through its meshes (Rackham, *op. cit.*, p. 64 and pl. 18).

⁵⁷ Both stick and needle were used in the West from the mid-twelfth century (J. J. Gruber in Aubert *et al.*, *op. cit.*, p. 65). On the use of the former, see Theophilus, II, xxi (ed. by Dodwell, p. 50).

Turning from technique to subject-matter, this may yet be further clarified, for, although several fragments have been joined, the possibilities of assembling them into their original units have not been exhausted. But it is already abundantly clear that our fragments come from windows with life-size figures. The face fragment includes the bridge of the nose and the left eye (frontispiece, 1; fig. 20, 2; fig. G, 1). The head was represented in an oblique, almost three-quarter view, turned to the viewer's right, for at the grozed right edge of our fragment is seen a part of the profile of the forehead.⁵⁸ The eye, which is turned in the same direction, has a well-defined eyelid. Pupil and iris are differentiated, the latter in half-tone within an opaque outline. Such is the eye-treatment in twelfth-century Constantinopolitan monuments.⁵⁹ In early western glass it is usual for pupil and iris to be combined in a solid disk of opaque paint (fig. G, 4).⁶⁰ Exceptionally, the Augsburg prophets (fig. G, 2) and the panel with St. Timothy from Neuwiller in the Cluny Museum (fig. G, 5) have the iris represented by a thin unpainted ring round the distended pupil. But in the faces of the Augsburg figures, for which an early twelfth-century date is now preferred, there is a naive quality which experimentation in the overpainting of eyelashes and bristling eyebrows and in the scribing of the half-tone has not redeemed.⁶¹ Our glass was painted by a more accomplished master. The Byzantine affiliations of the Neuwiller head have long been recognized,⁶² but it is perhaps significant that neither it nor the Augsburg

⁵⁸ Compare, for the pose, the head of Constantine IX in the Zoe panel in Hagia Sophia: T. Whittemore, *The Mosaics of Hagia Sophia at Istanbul, Third Preliminary Report: The Imperial Portraits in the South Gallery* (London, 1942), pl. XI.

⁵⁹ E.g., the Mother of God in the John II panel in Hagia Sophia: *ibid.*, pl. xxii.

⁶⁰ E.g., the Wissembourg Pantocrator (Aubert *et al.*, *op. cit.*, p. 73, fig. 47), the clerestory figures of St. Remy in Reims (*ibid.*, p. 108, fig. 79) and those of the genealogical windows at Canterbury (Rackham, *op. cit.*, pl. 1 ff.).

⁶¹ Wentzel, *op. cit.*, figs. 1-6 and, on the date, p. 16.

⁶² Viollet-le-Duc, *Dictionnaire raisonné de l'architecture*, 9 (Paris, 1870), p. 444; better illustrated in R. Bruck, *Die elsässische Glasmalerei* (Strasbourg, 1902), pl. 3A.

drophets have the double-line eyelid of our fragment. Consequently, despite a general affinity in the bold opaque outlines and the generous use of half-tone paint, our fragment cannot be matched exactly in the West, though the three-quarter pose is found in the late twelfth century in heads of isolated figures of monumental scale at both Reims and Canterbury, as well as in the smaller St. Bartholomew in the Darmstadt Museum (fig. G, 3).⁶³

There is a larger piece of pink glass of similar thickness with traces of half-tone paint that could be part of a bald head, but no other face fragments have been identified. This is not surprising. Rather is it remarkable that anything survived the sack of the church in 1453 and its subsequent use as a workshop. Certain it is that the great majority of our fragments come, not from the figures that occupied the center of each window and would have been the first to suffer damage, but from the border areas. There something remained to be raked out and swept into the vault when the building was converted into a mosque and supplied with new windows.

The garment fragments with their characteristic fold forms are sometimes sprinkled with rosettes (figs. H and 20, 4). Some suggest the outline of a shoulder, and the cross, if such it be, on the purple-red piece on figure H, 3 is suggestive of those on the maphorion of the Mother of God.⁶⁴ The cross on another purple-red fragment (fig. L, 20) could come from the same garment, but, unless this is the one that invariably appears above the Virgin's forehead, these crosses may represent another repeating, woven motif. In any event, there are fold fragments from more than one purple-red garment and they are found in three other colors of glass, indicating that they come from several figures.

⁶³ Wentzel *op. cit.*, fig. 23. In this head the eyes do have the double-line eyelid, though pupil and iris are not differentiated. This window, of a sophisticated Byzantinizing style, probably approximates as closely to those from which our fragments come as does any surviving in the West, despite its smaller scale and plain background.

⁶⁴ Compare those on the painted tile fragments in the Louvre (E. Coche de la Ferté, "Décors en céramique byzantine," *Cahiers archéologiques*, IX (1957), pp. 187-217, fig. 4).

A number of fragments of blue glass with arabesque motifs evidently come from a large ornamented area organized on an ogee framework (fig. I, 1-4). The recovery of two substantial joining fragments, on which this over-all design can be recognized beneath boldly overpainted fold-lines (figs. I, 5; 20, 5), indicates that these all come from another garment, representing a woven fabric of exceptional richness. This is confirmed by other blue fragments with the same arabesque motifs crossed by fold-lines (fig. I, 6-11). This class of ornament was popular in Byzantium in the late eleventh and in the twelfth century, when it degenerated into what has aptly been called vermiculation.⁶⁵ Again, representations of garments with all-over patterns are common in Byzantine miniatures and enamels, but unknown in early Western glass.

Similar arabesque elements are used on a few fragments of amber-yellow glass, but there they are organized on a framework of circles forming either a rinceau or a series of contiguous roundels (fig. I, 12-14). In the absence of fold-lines, it is preferable to assign these not to garments but to a background diaper of the type now to be described.

A substantial proportion of the blue glass fragments belongs to diaper designs of roundels arranged on a grid basis, according to two systems. In the first, the outer circles of the roundels are contiguous and the grid is only suggested by quatrefoils of pointed petals at the intersection points (fig. J, 9-12). In the second system, the roundels are further apart, the grid is well defined, and smaller roundels containing rosettes mark the intersections (fig. J, 1-5). In this second system, only two alternating roundel designs have been identified: an eight-petal rosette⁶⁶

⁶⁵ To the examples cited in *Dumbarton Oaks Papers*, 16, p. 341f. may now be added those recently discovered in the Patmos monastery: A. Orlandos, "Fresques byzantines du monastère de Patmos," *Cahiers archéologiques*, XII, p. 287f., figs. 10 and 13-15. For the ogee framework, compare that of the vermiculated ground of the cross on a silver reliquary in the Hermitage (Alice Banck, *Byzantine Art in the Hermitage Museum* [Leningrad, 1960], pl. 86).

⁶⁶ Compare the diaper of roundels containing eight-petal rosettes on David's tunic in Elmale Kilisse: G. de Jerphanion, *Églises rupestres de Cappadoce* (Paris, 1925), pl. 118, 2; 124, 2.

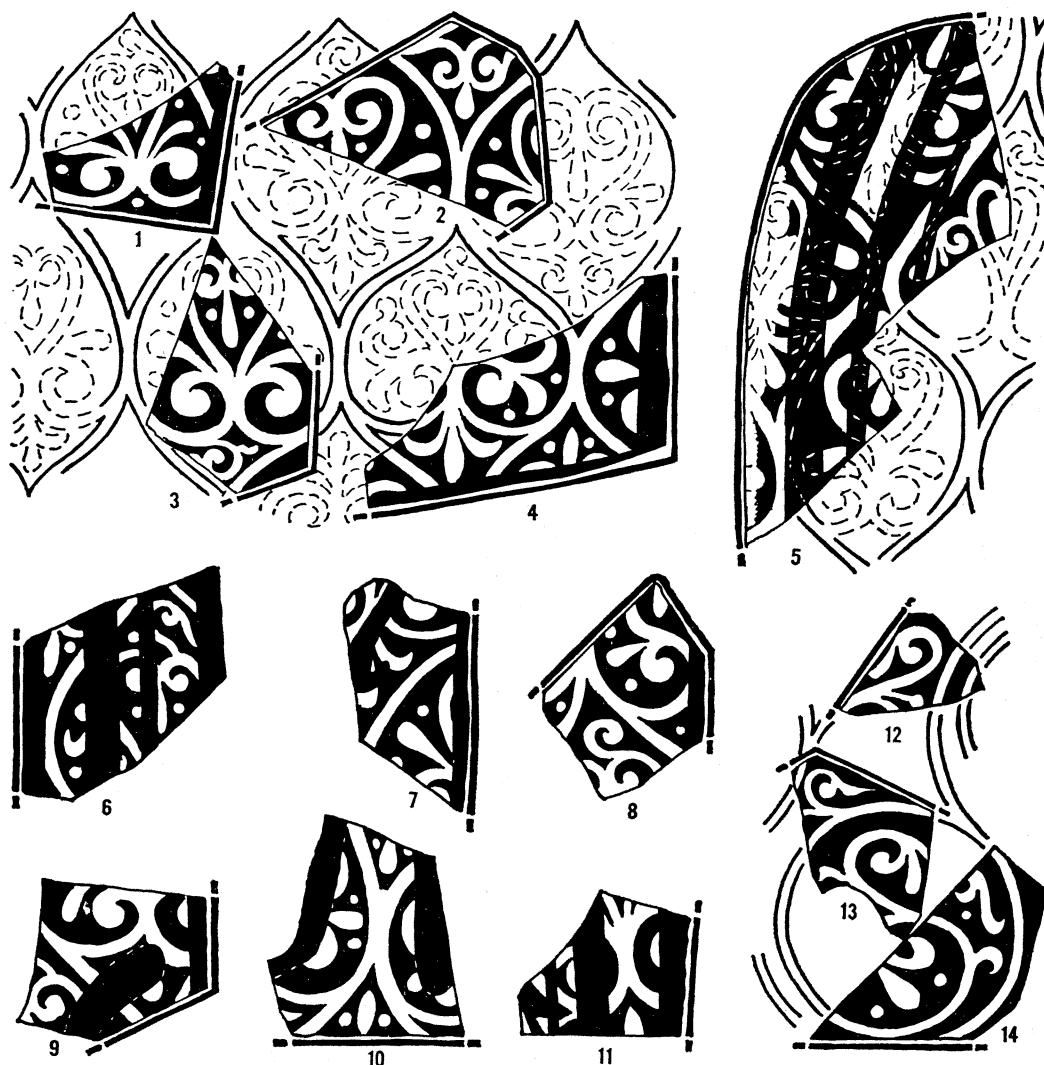


Fig. I. Zeyrek Camii (Pantocrator). Painted Fragments of Blue Window Glass from Garments with Arabesque Pattern. Nos. 12-14, Rinceau Fragments of Amber-yellow Glass (scale 1:2)

(fig. 21, 1 and 3 right; fig. J, 4 and 5) and four converging buds or ivy leaves in the quarters of a cross⁶⁷ (frontispiece, 4, right; fig. 21, 3 left; fig. J, 2-3). In the first design system the same two roundel designs recur (rosette: frontispiece, 4 above; fig. 21, 4; converging buds: fig. 21, 4 above; fig. J, 9), but there are also others: radiating buds (frontispiece, 4 below; fig. 21, 9; fig. 22, 8); whorls (fig. 21, 8); four half-palmettes forming a swastika motif (fig. J, 12); an eight-petal rosette

⁶⁷ Some examples of this popular Byzantine motif where trefoils are used are listed in *Dumbarton Oaks Papers*, 16, p. 337, notes 142-143.

with alternate petals reduced and enclosed in sheath-leaves (fig. J, 10). A few fragments with simple rosettes arranged according to the second system are of purple-red glass (fig. J, 11). One of pink glass has larger roundels without the outer circle but containing similar designs (fig. J, 8), while similar fragments of amber-yellow glass have a different spandrel motif and include a pearl border (fig. 21, 5; fig. J, 13). A few other analogous roundel diapers occur on amber-yellow glass (fig. J, 6-7).

None of these fragments with roundel designs bears overpainted fold-lines and it is

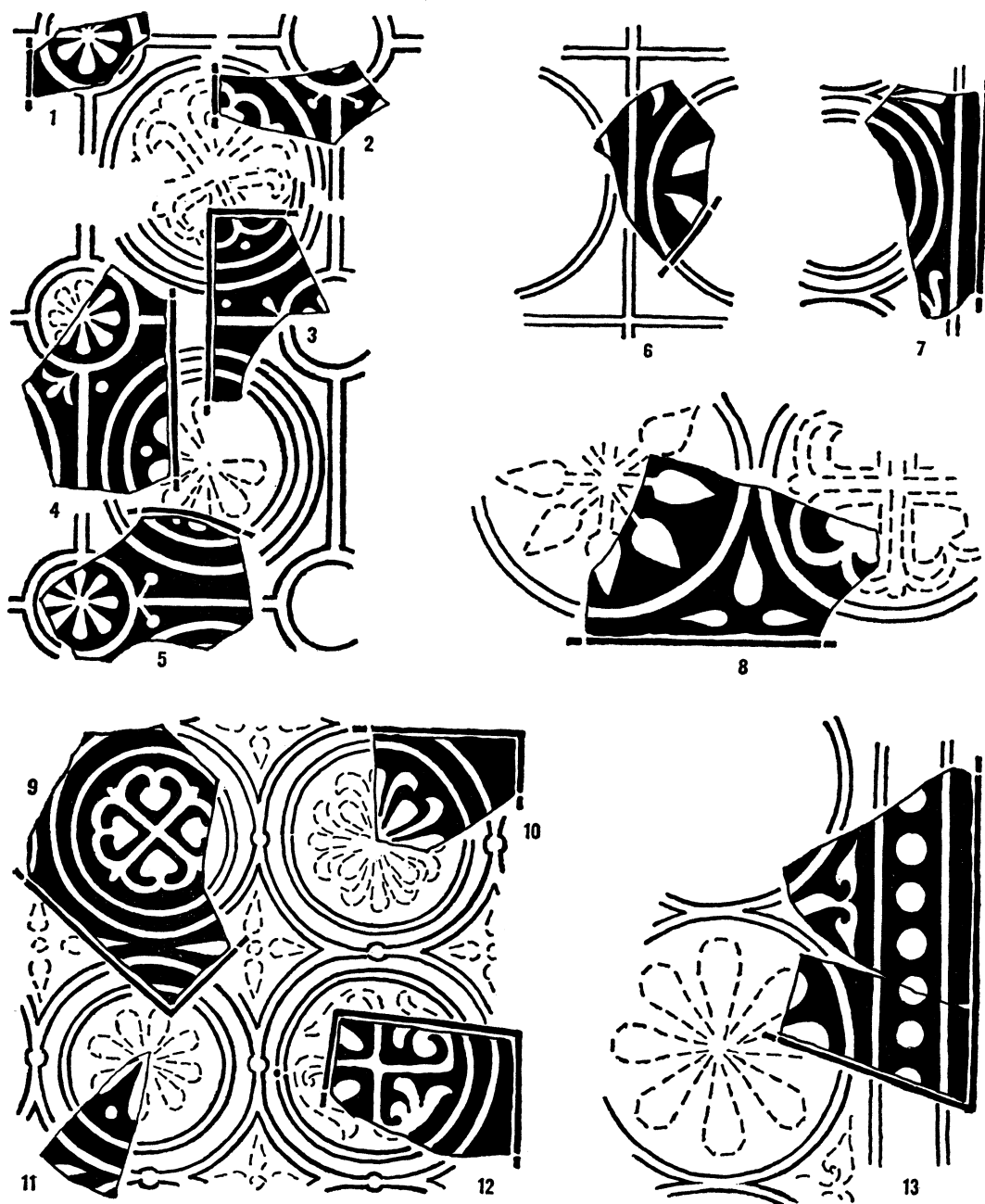


Fig. J. Zeyrek Camii (Pantocrator). Painted Window Glass Fragments from Background Diapers. Nos. 6, 7, and 13, Amber-yellow; No. 8, Pink; No. 11, Purple-Red; Remainder, Blue (scale 1:2)

almost certain that they come, not from garments, but from the areas of ground between the outlines of the figures and the ornamental borders that frame the windows. In a high proportion of cases the grozed edges are straight and align with the framework of the design, suggesting that these

diapers were painted on a series of "quarries" about 0.10 by 0.08 m., of which figure 21, 9 is a reasonably complete specimen. These would have been set in a grid of came aligned, but not coinciding, with the grid of the design. The inclusion of a pearl border on a few fragments (e.g., fig. J, 13), marking the

beginning of the framing elements at the side of the windows, indicates that the lines of the grid ran vertically and horizontally; it also supports the identification of these diapers as ornamented backgrounds. As such they correspond to the backgrounds of the richest class of Byzantine icon,^{67a} and that of the full-length Archangel Michael on the enamelled book-cover in the Treasury of San Marco, which has just such a grid of roundels edged with a pearl border.⁶⁸

Ornamented grounds are a feature of some twelfth-century Western windows.⁶⁹ But since there was a tradition of background ornamentation in Byzantium, and since our particular pattern of small roundels was characteristic of the Byzantine repertory in the twelfth century,⁷⁰ there is no reason to seek their inspiration elsewhere.

The arabesque design represented by the amber-yellow fragments in figure I, 12-14 may also belong to a background, in which position it can likewise be matched both on a Byzantine icon⁷¹ and in Western glass.⁷²

^{67a} E.g., the Sinai *Hodegetria*: G. and M. Soteriou, *Icones du Mont Sinai* (Athens, 1956), pl. 71.

⁶⁸ In the upper part of the ground: Pasini, *op. cit.*, pl. II; O. M. Dalton, *Byzantine Art and Archaeology* (Oxford, 1911), p. 511, fig. 306. Compare the ornamented backgrounds of certain Venetian mosaics which may reflect this class of icon, such as the panel of the Mother of God in San Marco: O. Demus, *Die Mosaiken von San Marco in Venedig 1100-1300* (Vienna, 1935), fig. 37; W. Weidöl, *Les mosaïques vénétienues* (Milan, 1956), pl. XII.

⁶⁹ E.g., ca. 1160, in the blue roundel diaper used for the sky (dotted with yellow stars) within the mandorla of the Le Champ Ascension window (Aubert *et al.*, *op. cit.*, pl. XI) and ca. 1165, the diaper ground in the corresponding part of that at Poitiers (*ibid.*, p. 39, fig. 21).

⁷⁰ Discussed with reference to the fresco representation of an altar frontal in Cyprus in *Dumbarton Oaks Papers*, 16, p. 305f. and fig. c, 1. In the present connection it is relevant to mention the roundels filled with rosettes or fabulous animals in the curious pierced lead panels of a window of the Studenica Church built by Stephen Nemanja ca. 1190 (Ljubinković, *op. cit.*, pl. XLVII, 1.).

⁷¹ In the lower zones of the enamelled ground of the full-length Archangel Michael in the Treasury of San Marco: cf. note 68 *supra*. Compare the filigree arabesques in the background of the companion half-length Michael: Rice, *op. cit.*, pl. xv.

⁷² E.g., on that part of the ground of the Le

These different designs and colors provide material for four distinct backgrounds.

There are also both blue and green fragments from repeating designs of rectangles. To judge by their repetition of several of the roundel motifs and by the alignment (and often the conformity) of the grozed edges with the design grid, these come, like the roundels, from ornamented backgrounds. That they do not come from isolated rectangular units of a border design is clear from the presence of part of two or more rectangles on a single fragment (fig. K 2, 16 and 20). The roundel motifs repeated on the rectangles are: the rosette (fig. K, 21), the modified rosette with sheath-leaves enclosing the diagonal petals (fig. K, 14 and 22), the four converging buds or ivy leaves (fig. K, 5) and the four half-palmettes forming a swastika (fig. K, 18). The elements of the arabesque roundel or rinceau design of fig. I, 12, 13 and 14 are seen on fragments of blue and green rectangles (fig. K, 1 and 2), which incidentally confirm that the rectangles were set with the longer dimension in the vertical sense. Two adjacent green rectangles of the largest size introduce a design with trefoils arranged in the form of a cross (fig. K, 20); while two more additional designs with radial lilies are found on blue rectangles of the smallest size, which represent some of the most delicate painting in the whole series (fig. K, 3, 4 and 6). Such delicacy implies the use of the point.

The series of blue, green, and amber-yellow rectangles, each forming a complete unit, with much bolder decoration representing precious stones (fig. K, 8-13) probably adorned furniture or other accessories of the

Champ Ascension window outside the mandorla: Aubert *et al.*, *op. cit.*, pl. XI. For other French examples, see Grodecki, "Quelques observations sur le vitrail au XII^e siècle en Rhénanie et en France," *Mémorial d'un voyage d'études de la Société Nationale des Antiquaires de France en Rhénanie* (Paris, 1953), p. 246. Such backgrounds are characteristic of the windows, ca. 1170/80, of the Rhenish master Gerlachus (Wentzel, *op. cit.*, figs. 18, 20, and 21) and recur both in Alsace in the Wissembourg window of the Virgin and Child (*ibid.*, fig. 22) and at Canterbury in the miracle medallions of the Trinity chapel aisle, 1220-1225 (Rackham, *op. cit.*, pls. XI, 34 and 37 a-b).

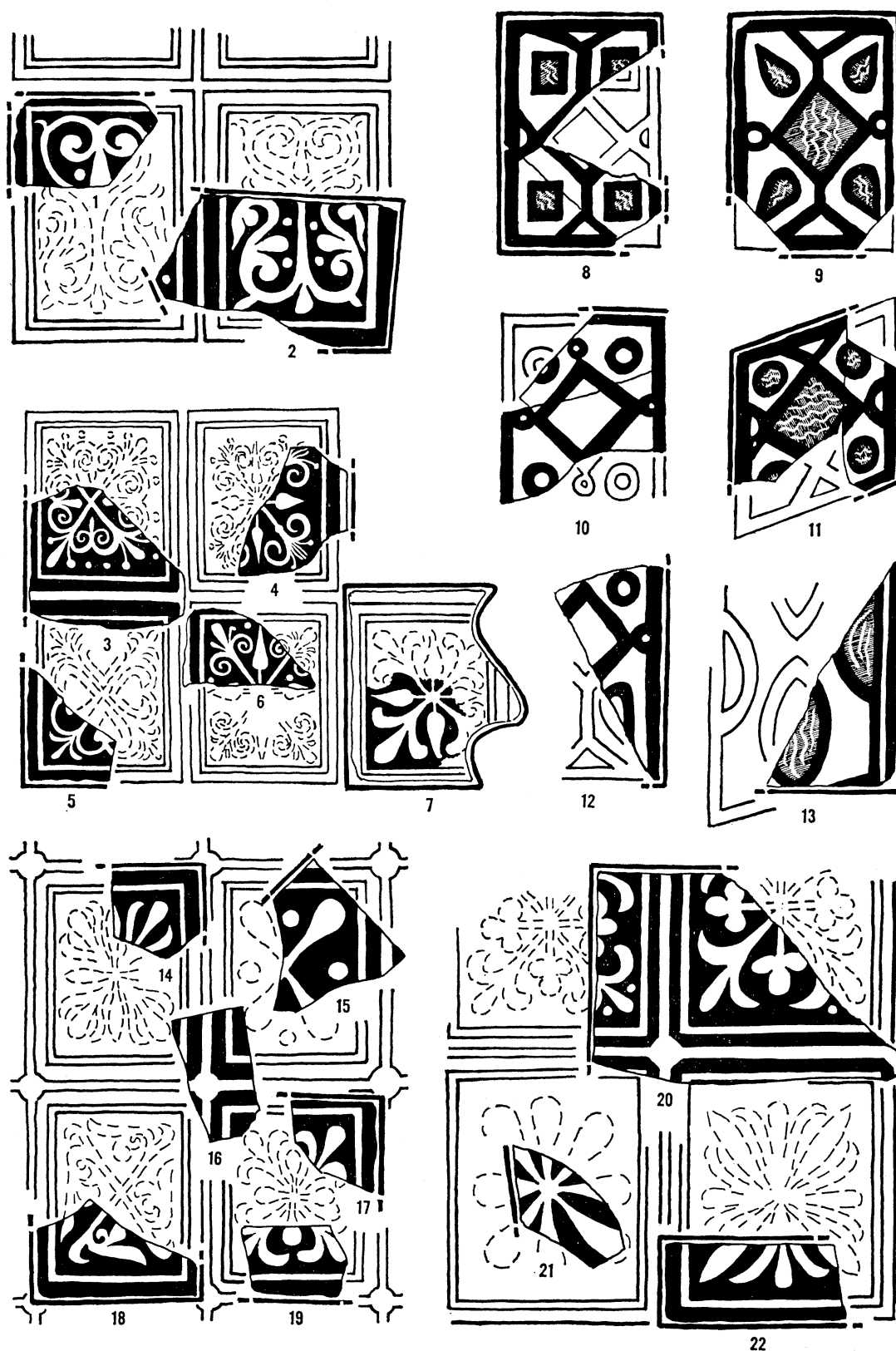


Fig. K. Zeyrek Camii (Pantocrator). Painted Window Glass Fragments from Backgrounds and (Nos. 8 to 13) Furniture (?). Nos. 2, 9, 10, 12, and 20-22, Green; No. 13, Amber-yellow; Remainder, Blue (scale 1:2)

figures themselves. Since some are shown in perspective, they cannot belong to the background or border series.

Even without these, variations in the size of the background rectangles and in the colors used bring the total of background designs to nine. It may be no coincidence that the three lights of the east window would each accommodate three life-size figures, as indicated in figure F, making nine in all.

If it is assumed that all the glass found comes from the east window,⁷³ it represents not more than one-tenth of the glass required to fill its three lights. There is thus little hope of identifying the figures that it represented. The most that can be said is that the sumptuous blue robe enriched with arabesques would be appropriate, among so many plainer ones, for a figure of Christ at the head of the wider central light, in which case the fragment in fig. I, 5 might come from the right shoulder or, if the figure was seated, from the outline of a knee. In this latter conception the jewelled units could take their place on the throne of the central figure. The maphorion fragments, if such they be, suggest a frontal pose for the Mother of God, probably in the second register of the middle light. The face fragment should be assigned to one of the seven attendant figures, probably that at the head of the north light.

It remains to mention the material, represented by rather numerous fragments, for which a position in the border areas seems appropriate. To these areas rather than to the background I would assign the "quarries" (0.083 to 0.09 m. square) with the motif of four converging trefoils or lilies (frontispiece, 3 and 5; fig. 22, 9 and 10). They form diapers delineated by the comes, which could have run diagonally since the units are square. In their larger scale and different designs they are alien to the background series. If the borders of the upper panels of the window were carried vertically down to the sill they would have cut off narrow areas on either

side of the mullions, for which these diapers are candidates. There are three varieties (one for each window?): on amber glass both the trefoil and the lily design (for the lateral lights?), on green glass the lily design only. The popularity of this motif of the four converging flowers in the twelfth-century Byzantine repertory has already been noted.⁷⁴

The main border design was a rather broad jewelled band 0.08 to 0.09 m. wide, which is found with variations on three colors of glass: blue (fig. 20, 7; fig. L, 26); amber-yellow (fig. 20, 1; fig. L, 27) and colorless; one for each light of the window. The two largest fragments conform with the curve of the window arches. The refinement of workmanship in the ground ornament of the large, blue fragment has already been noted.

Among the simpler and smaller patterns there are numerous fragments of pearl borders of colorless, amber-yellow, and green glass; also a very few of blue and purple-red. They vary considerably in size (the pearls from 0.006 to 0.017 m.); some show the arch curvature and some have border lines (frontispiece, 1, and 3; fig. 22, 2 and 4; fig. L, 9A). Some have small unpainted dots reserved in the spandrels (fig. L, 9B). Borders of real pearls were frequently used in Byzantine goldsmiths' work, and in representations of imperial and other robes they are a standard enrichment, of which the painters also made much use in the ornamentation of nimbus rims, thrones, and other objects.⁷⁵ In early Western glass pearl borders such as ours are widely used; as a costume ornament,⁷⁶ as a medallion border,⁷⁷ and as an

⁷⁴ See note 67 *supra*.

⁷⁵ In the comparable technique of tile-painting also the pearl border was adopted, as on the peacock tile in the Louvre (Coche de la Ferté, *op. cit.*, fig. 7a).

⁷⁶ E.g., on the footwear of the Augsburg prophets (Wentzel, *op. cit.*, figs. 3, 5, and 6) and on the hems of the robes worn by the Strasbourg emperors (F. Zschokke, *Die romanischen Glasgemälde des Strassburger Münsters* [Basel, 1942], p. 187, fig. 51). Some of our fragments with pearl borders edging patterned areas, such as figure 22, 3, may also come from garments.

⁷⁷ E.g., those of the late twelfth century in the Kaiser-Friedrich Museum, from Ingelheim? (Wentzel, figs. 16 and 17) and the Solomon medallion at Strasbourg (*ibid.*, fig. 25).

⁷³ When the glass was discovered scaffolding was not available for examination of the other windows for traces of saddle-bars; so it is at present unknown whether any other was similarly glazed.



Fig. L. Zeyrek Camii (Pantocrator). Miscellaneous Fragments of Painted Window Glass. Nos. 2, 3, 9 B, 14, and 19, Colorless; Nos. 4, 7, 13, and 24, Green; Nos. 8, 9 A, 10, 15-18, 21 A-C, 27, and 28, Amber-yellow; Nos. 20 and 25, Purple-red; No. 23, Pink; Remainder, Blue (scale 1:2)

element in elaborate borders such as that of the Le Champ Ascension, where yellow and green as well as colorless glass are used.⁷⁸

The simple jewel border (frontispiece, 3; fig. 22, 7) is common in amber-yellow glass and is found in several widths (from 0.02 to 0.013 m.); it occurs also in narrow, colorless glass borders of average width 0.017 m. In Western windows of the twelfth century analogous borders, in which the stones are individually defined, often occur on the hems and edgings of garments,⁷⁹ but the regularity and simplicity of our fragments suggest that they come not from the figures, but from the framing elements. The variety represented by the amber fragment figure L, 10, already noted as an example of the use of half-tone, is closer to some of the Western examples in its interior outlining of the individual stones. The type of jewel held by four claws is represented by a single fragment of blue glass (fig. L, 22).

The narrow wavy border on blue glass (fig. L, 5) is rare, as are both the simple bands figure L, 1 and 2 and the small green rinceau borders figure L, 4 and 7. All these may therefore represent dress ornament or enrichments on accessories of the figures themselves, though it may be noted that narrow rinceau borders occur among framing elements in the West.⁸⁰ The broader rinceau forming circular scrolls on an amber-yellow fragment (fig. L, 8) from a curving border is reminiscent of

those on the ornamented nimbi of some of the early Rhenish windows.⁸¹

The fragments with arcading on amber-yellow glass (frontispiece, 3; fig. 22, 6; fig. L, 21 A-C) probably represent furniture carved in imitation of architectural forms rather than architecture itself. If so they could come from the throne of Christ.⁸²

The small blue units, figure L, 11 and 12, are related by their designs, here evidently complete on appropriately shaped pieces of glass, to the background diapers of rectangles. Those of green and pink glass in figure L, 13 and 14 with a half-palmette on each lentoid piece would fit better in the type of foliage border in which the cameos form the outline of the design; but this suggestion cannot be pressed in the absence of other pieces that could fit into such a scheme, the only possible exception being a pair of blue lunettes, one of which survives in its lead (fig. L, 6). More probably they adorned some accessory of the figures themselves. The dot-filled lattice designs (frontispiece, 2; fig. 22, 5; fig. L, 25) all on purple-red glass almost certainly represent costume fabrics or embroidery in view of their use for this purpose both in Byzantine contexts⁸³ and in early Western glass.⁸⁴ The

⁷⁸ Aubert *et al.*, *op. cit.*, pl. XI; also in the west windows at Chartres (*ibid.*, p. 35, fig. 15); and in some borders of windows of the Gerlachus group (Wentzel, *op. cit.*, figs 18-20). The particular type of our figure L, 9B with small unpainted dots reserved in the spandrels is found in German windows from the late twelfth century (Wentzel, *op. cit.*, figs. 21, 30-33 and p. 25, fig. 13).

⁷⁹ E.g., Bourges cathedral, Adoration of the Magi (Aubert *et al.*, *op. cit.*, p. 93, fig. 63); Augsburg prophets (Wentzel, *op. cit.*, figs. 3-5); Canterbury, genealogical windows (Rackham, *op. cit.*, pl. 4, c-d and pl. 8, b).

⁸⁰ E.g. that, ca. 1175, round the Normée medallion of Adam and Eve (Aubert *et al.*, *op. cit.*, p. 63, fig. 37); the St. Bartholomew window border, ca. 1170/80, in Darmstadt (Wentzel, *op. cit.*, fig. 23); and the very narrow example round the St. John window, ca. 1120/30 in the church of St. Kunibert in Cologne (Wentzel, *op. cit.*, fig. 26).

⁸¹ Connected by Grodecki with those on Mosan enamels under Byzantine influence (*Memorial d'un voyage...*, *op. cit.*, p. 247). This type of rinceau, forming well-rounded scrolls recalls the embossed silver border on the back of the half-length gold and enamel icon of the Archangel Michael in the Treasury of St. Mark's (Dalton, *op. cit.*, fig. 339). It is regularly used as an inner border on the windows of Gerlachus and his followers (Wentzel, *op. cit.*, figs. 18, 20, and 21) and appears on the Solomon medallion at Strasbourg (*ibid.*, fig. 25).

⁸² Compare the footstool of the Pantocrator in an early twelfth-century Byzantine miniature: Paris, Bibl. Nat. Suppl. gr. 1262, fol. 35 (J. Beckwith, *The Art of Constantinople* [London, 1961], fig. 164). In this position arcading is found in Byzantine ivories from the tenth century (*ibid.*, figs. 100-101). Western glass of the late twelfth century provides a simplified example in the Wissembourg window of the Virgin and Child (Wentzel, *op. cit.*, fig. 22).

⁸³ E.g., on the robe of Michael III in the miniature illustrating the discovery of the head of St. John in the Menologium of Basil II: Cod. vat. gr. 1613 (*Il menologio di Basilio II* [Milan, 1907], fol. 420).

⁸⁴ Strasbourg, ca. 1210, as a lining to the mantle of the Emperor Henry I (Aubert *et al.*,

fragments of pale purple-red glass is with small contiguous circles suggestive of chain mail (fig. L, 23) may likewise belong to the figures, and possibly also a green fragment with larger, separate circles (fig. L, 24). Finally, the curious pattern of squares containing half-tone hatching on amber-yellow glass (fig. L, 15-18) may represent a coarse fabric, if we may judge from the comparable treatment, in a Venetian mosaic,⁸⁵ of the sackcloth worn by St. Paul the First Hermit.

Apart from these fragments of stained glass found in the vault, small quantities were found elsewhere in the building: in a shallow pit by the south angle of the synthronon, which was probably opened during the demolition of this feature; and among the material used to form the Turkish platforms on either side of the west door. The identifiable pieces in these groups, including in the latter case fragments of green drapery and of pearl and jewel borders, all conform to the types found in the vault and doubtless come from the same windows.

As to the origin of these windows, which were evidently in place in 1453, there is only internal evidence. Their general character is close to that of some of the earliest surviving figured windows in the West. They had the same limited range of strong colors imposing a stark simplicity of color composition. Coupled with this, they present a refinement of ornamental detail more in keeping with the enamellist's craft than with monumental painting. In both French and German glass a similar intricacy is found in the twelfth century, when the skill of the master glaziers was concentrated on the relatively small areas of glazing required for the Romanesque window. While this precious quality lasted into the thirteenth century in Germany, in France the rapid development of the Gothic style presented the glaziers with a problem of rapid production for

windows of ever-increasing size. With this developed phase our fragments have little in common.

The similarities of technique and ornament that have been noted relate our fragments to Western glass dating before 1204 rather than after 1261. The possibility that the windows were set by Western glaziers during the Latin occupation, when the church was in the hands of the Venetians, can be disposed of by the indication that the figures were accompanied by Greek inscriptions, resting albeit on only one complete Greek letter ("Y": frontispiece, 1; fig. 22, 1), as well as on grounds of probability. There is no evidence of any embellishment of the church by the Latins;⁸⁶ rather does it seem that, having removed almost everything of value, they left the building as it was, including even features alien to Western practice such as the iconostasis and the synthronon.

That this is in fact local Byzantine glass which owes nothing to the West is, in any case, suggested by some of the colors used. The preponderance of blue fragments is significant. The treatise of the German monk Theophilus, composed probably between 1110 and 1140, indicates that blue was a difficult color in the West in his time, but a Greek speciality, since he calls it *saphirus graecus*,⁸⁷ and reports the current manufacture by the Greeks of blue glass vessels.⁸⁸ Theophilus also relates how blue window glass was procured in France by melting down ancient glass vessels of that color and adding a little clear and white glass.⁸⁹ This perhaps explains why in the Pantocrator glass the blue is not only more common, but also of greater intensity than in some early French windows.

⁸⁶ The testimony of Nicephorus Gregoras (ed. Bonn, I [1829], 85) for the use of the Pantocrator monastery as the residence of the Latin Emperor is unacceptable (R. Janin, *La géographie ecclésiastique de l'Empire byzantin*, I, *Le siège de Constantinople*, iii [Paris, 1953], p. 531).

⁸⁷ Theophilus, II, xix, ed. by Dodwell, p. 49.

⁸⁸ *Ibid.*, II, xix, ed. by Dodwell, p. 45.

⁸⁹ *Ibid.*, II, xii, ed. by Dodwell, p. 44. Blue glass was also obtained by salvaging blue tesserae from glass mosaics in pagan buildings (*ibid.*, *loc. cit.*). Other colors were procured in the same way, indicating that in the time of Theophilus the colored window glass industry was still in its infancy.

op. cit., p. 110, fig. 80); Canterbury, *ca.* 1180, border at the neck of Lamech's robe (Rackham, *op. cit.*, pl. 4, c). A circle-filled lattice, drawn with the point, is used on the patterned ground of a bust of Christ in Lyon, *ca.* 1185-1200 (L. Grodecki, "Un groupe de vitraux du XII^e siècle," *Festschrift Hans R. Hahnloser* [Basel-Stuttgart, 1961], p. 296, fig. 5).

⁸⁵ Weidlé, *op. cit.*, pl. 107.

Further, the dark purple-red glass is quite different from the brilliant ruby of twelfth-century glass in the West, obtained by flashing a thin coating of red onto a base of colorless glass. This technique seems to have precluded the fusing of any painted design onto early red glass in the West.⁹⁰ There is no trace of this flashing on our purple-red fragments, and they are painted in the normal way.

Another technical difference between our fragments and early mediaeval window glass in Western Europe lies in the manufacture of the sheet glass. The indications that the Pantocrator glass was cast in rectangular plates have already been mentioned. Theophilus describes the quite different process by which his sheets were made from blown glass.⁹¹

If, then, there are technical indications that our glass is the product of a local Constantinopolitan industry, its stylistic affinity with the earliest painted window glass in the West is close enough to assign it a date before, rather than after, the Latin occupation. There is, indeed, no record or material evidence of any major redecoration of the building under the Palaeologan emperors to which this sophisticated window glazing could be assigned. Moreover, we have seen that the numerous ornamental motifs employed on it are at home in the Comnenian repertory. Consequently, it is reasonable to conclude that our glass represents the original

glazing of the windows in which it was set. In that case, it can be closely dated. From the content of his *typikon* it is clear that the whole complex of buildings of the Pantocrator group was already in use in 1136 when the Emperor John II signed that document; but the glazing of the windows of the church in which the glass was found may be put some ten years earlier. For although the Empress Irene, who started it, left it unfinished at her death in 1124, its completion would have been the first care of her husband during the following twelve years that saw also the erection beside it of the monastery, the church of the Eleousa, the Heroön and other dependencies.

Does the discovery of a mature stained glass industry active in Constantinople around the year 1126 throw light on the origins of French and German glass? Of earlier date there have survived in the West no substantial monuments other than the somewhat primitive Augsburg prophets, and they only if, with Wentzel, we reject Boeckler's later dating for them around 1140.⁹² It is true that the treatise of Theophilus attests a well advanced technique in Germany about the time our glass was set or soon after, and that in its introduction there is an indication of the high esteem in which, by his time, the French glaziers' work was held. But it is difficult to believe that a Western glazier was brought to Constantinople to embellish the windows of an imperial church of this time. Rather must we suppose that behind the Pantocrator window lay a long tradition of the glaziers' craft in Byzantium itself and that the Western craftsmen of the time of Theophilus were developing an offshoot of this tradition. Theophilus gives more than one hint that he had a Greek treatise to hand.⁹³

⁹⁰ *Ibid.*, II, xxi, ed. by Dodwell, p. 51: *in campis vero saphiri et viridis coloris eodem modo depictis, et rubicundi non picti*,... The purple (*purpurea rufa et perfecta*, in one passage), on the other hand, was painted like the other colors and fixed in the muffle kiln (*ibid.*, II, xxiii, ed. by Dodwell, p. 52).

That our purple-red glass is characteristically Eastern is indicated by its reappearance among the thirteenth-century fragments found at 'Atlit: "dull purple or wine color (never the vermilion of contemporary European windows)" (Johns, *op. cit.*, p. 33). By contrast, the glass from Montfort, which is more western in character, includes neither red nor purple fragments (Dean, *op. cit.*, p. 42).

⁹¹ Theophilus, II, vi and ix, ed. by Dodwell, pp. 40 and 42. This is evidently allied to the muff or cylinder process used for practically all early mediaeval window glass found in Britain (D. B. Harden, "Domestic Window Glass," *Studies in Building History*, ed. by E. M. Jope [London, 1961], pp. 39, 41).

⁹² A. Boeckler, "Die romanischen Fenster des Augsburger Domes," *Zeitschrift des Deutschen Vereins für Kunstwissenschaft*, 10 (1943), p. 181; Wentzel, *op. cit.*, p. 16.

⁹³ There is implicit evidence of the currency of painted window glass in Byzantium in Theophilus' account of a Greek technique for embellishing blue glass vessels with gold leaf. For when the latter had been covered by a film of finely ground clear glass, he adds, the Greeks fixed it by refiring in the special kiln *in quo fenestrae vitrum pictum coquitur* (Theophilus, II, xiii, ed. by Dodwell, p. 45).

In any case his close acquaintance with Byzantine practice is indisputable, though the early suggestions that he was himself a Greek have had to be rejected.

The features common to our Byzantine glass and to early Western glass have been cited in support of an early twelfth-century dating for the former. If this dating is accepted, these common features are valid also as confirmation of the Byzantine origins of Western stained glass. Confirmation, because the techniques of Western glass have already been recognized as stemming from the highly developed glass industry of the Near East rather than from the survival of the Roman tradition of glassmaking in the West,⁹⁴ confirmation, because the possibility that the use of lead in window glazing was first developed in the East has already been canvassed.⁹⁵

As to style, Viollet-le-Duc's perception long ago of a Greek model behind the head of St. Timothy from Neuwiller has already been mentioned,⁹⁶ and more recently the recognition of the role of the Valley of the Meuse in the dissemination of Byzantine influence⁹⁷ has provided for Professor Grodecki a key to the common elements in the twelfth-century glass of the Rhineland, Alsace, and northeast France.⁹⁸ If others regard Rhenish-Alsacian glass as an independent development,⁹⁹ its Byzantinizing character in the twelfth century is not disputed. Although in France the glaziers more quickly threw off the marks of the Byzantine origin of their craft, new evidence

of it is coming to light with the study of the earliest monuments, notably in the South-East Group assembled by Grodecki.¹⁰⁰

Heretofore such appearances of Byzantine style and iconography in Western glass were read as part of the general phenomenon of Byzantine influence in the West. The discovery of this glass in the Pantocrator church, probably dating from about 1126, discloses a much more specific explanation of these affinities. For the whole conception of the leaded window with figural representation as an essentially Western creation is now in question, and the craft of the window glazier may take its place among those others which Constantinople perfected and gave to the West. The Pantocrator fragments show a craft no longer in its infancy and it is not now unreasonable to suggest a Byzantine inspiration for such earlier painted window glass as exists, or is known from documentary sources to have existed, in the West; for the eighth-century Ommayad fragments from Kirbet al-Mafjar,¹⁰¹ and perhaps even for the sixth-century roundel fragments with the figure of Christ from San Vitale.¹⁰²

Kariye Camii

Since the completion of its work on the mosaics and frescoes¹⁰³ and the excavations of 1958,¹⁰⁴ the operations of the Institute at the Kariye Camii have been limited to incidental conservation tasks, including the partial repointing of the exterior. Work is

⁹⁴ As long ago as 1781, Thomas Warton believed he could show that the art of "expressing figures on glass," as he termed it, "was brought from Constantinople to Rome before the tenth century, with other ornamental arts" (*History of English Poetry*, III [1781], p. xxii).

⁹⁵ H. G. Franz, "Neue Funde zur Geschichte des Glasfensters," *Forschungen und Fortschritte*, 29 (1955), Heft 10, p. 310.

⁹⁶ See *supra*, note 62.

⁹⁷ M. Laurent, "Art rhénan, art mosan et art byzantin," *Byzantion*, VI (1931), p. 89f.

⁹⁸ L. Grodecki, "Quelques observations sur le vitrail au XII^e siècle en Rhénanie et en France, *Mémorial d'un voyage d'études de la Société Nationale des Antiquaires de France en Rhénanie* (Paris, 1953), pp. 241-248.

⁹⁹ Wentzel, *op. cit.*, p. 16f.; Zschokke, *op. cit.*, *passim*.

¹⁰⁰ Grodecki, "Un groupe de vitraux français du XII^e siècle," *Festschrift Hans R. Hahnloser* (Basel-Stuttgart, 1961), p. 296.

¹⁰¹ Baramki in *Quarterly of the Department of Antiquities in Palestine*, X (1942), p. 153f.: "it is sometimes painted in black with floral or geometrical designs."

¹⁰² C. Cecchelli, "Vetri di finestra di San Vitale," *Felix Ravenna*, N. S. 25 (1930), fasc. ii, p. 1f., and pl. 1.

¹⁰³ Completed with the work on the tomb-niches, on which see P. A. Underwood, "Notes on the Work of the Byzantine Institute in Istanbul: 1955-1956," *Dumbarton Oaks Papers*, 12 (1958), p. 271f.

¹⁰⁴ For a summary account, see David Oates, "A Report on the Excavations in the Kariye Camii," *Dumbarton Oaks Papers*, 14 (1960), pp. 223-231.

now well advanced on the preparation of a four-volume publication dealing with the mosaics and frescoes.

In the meantime, the important find of stained glass at the Zeyrek Camii which has just been described makes this an appropriate occasion to report the discovery of a smaller quantity of similar material in the course of the Institute's work at the Kariye Camii. It was found during the excavations of 1957 in the bema of the main church. In this area the Byzantine floor had been destroyed and it was observed that at some time an extensive intrusion had been made into the material on which it rested. Probably this happened at the time when, on the conversion of the building into a mosque, the altar was destroyed. In this intrusion the large *loculus* under the altar had been robbed,¹⁰⁵ and it was among the miscellaneous materials with which it was refilled before the Turkish floor was laid that the glass was found.

In a similar context at the east end of the Parecclesion was found a quantity of the lead comes in which the glass had been set. In the same area of the Parecclesion colored but unpainted fragments of thin window glass were found. The latter doubtless come from the apse window of the Parecclesion, where in the upper sections the remains of three plaster frames were found in position. These frames, which had formed simple geometrical patterns and at some points retained similar fragments of thin glass may well have survived from the original fourteenth-century glazing. The lead comes, on the other hand, like the painted glass, probably derive from the original windows of the Comnenian apse of the main church.

While not identical with the Pantocrator glass, these fragments represent the glazier's craft at approximately the same stage of development. In thickness and quality of glass they are similar, though they have suffered less from weathering; the red fragments, for example, have not formed the opaque film characteristic of the Pantocrator series. The color range is similar, though the blue is less common and usually weaker in tone (*frontispiece*, 6). The purple-red is some-

what redder and in a few cases the purple tint is reduced (*frontispiece*, 7). The green includes distinct light and dark tones and the colorless glass has a green tint lacking in the Pantocrator fragments. The edges of the sheets are sometimes rounded (*fig. 25, 2*, bottom), but in most cases they appear, as in the Pantocrator glass, to have been made in square pans, leaving straight edges where the glass is often thicker; there are fragments with two such edges forming a right angle (*fig. 25, 8 and 10*).¹⁰⁶ The paint is again usually thick and liable to flake off.¹⁰⁶ Half-tone painting occurs, notably on some red pieces with large-scale *acanthus* foliage (*fig. 23, 1 and 9*), and the use of the needle can be detected on a few fragments (*figs. 25, 8 and 10*).

With the exception of one distinctive group, this glass appears to have come from windows of the same general character as those in the Pantocrator church, containing life-size figures with intricate decorative details and ornamental borders. The differences are no more than could be expected in the production of two contemporary workshops.

The distinctive group consists of colorless fragments, all repeating the same motif, completed within a border on each pentagonal or rectangular unit, and comprising a cross on a pyramidal base with heavy foliage filling the angles (*fig. 25, 8-11*). These

¹⁰⁵ Exceptionally, among the unpainted fragments is one with the "bullion" or knob from the center of a disk of spun or "crown" glass, with a pontil mark on the flat side of the bullion. A few others come from the circumference of such disks. This crown glass may come from another window system, distinct from that of the leaded glazing, though crown glass was used for the leaded thirteenth-century windows of the 'Atlit church (Johns, *op. cit.*, p. 133).

There are also a few yellow and colorless pieces of the same thin glass that was found in the Parecclesion apse window. Sealed by the Turkish floor, these fragments confirm that this class of glass was current in the Palaeologan period.

^{106a} On some fragments the lost paint was temporarily restored on the iridescent traces, in order to obtain color photographs of the designs with back lighting (e.g., *frontispiece, 9*; compare *fig. 24, 3*). In a few cases this restored paint was present when the black and white photographs were taken: *fig. 24, 7*; *fig. 25, 7 and 9*.

¹⁰⁵ *Ibid.*, p. 228, and plan on p. 224, *fig. 1*.

evidently come from a *grisaille* window in which the lead formed a geometrical pattern. The derivation of this class of window, which appears in the West simultaneously with the figured window, has been traced from ornamental stone or plaster transenna-windows of Byzantine type. This discovery of material from a *grisaille* window in Istanbul fully justifies the question asked by H. G. Franz whether the development of ornamental transennae provided in the East the impetus for the discovery of a thinner form of binding for the glass.¹⁰⁷

Among the correspondences with the Pantocrator glass, we may note the fabric patterns crossed by fold-lines, indicating that here also we are concerned with figured windows: a diaper of small roundels each ringed with a dotted border and containing rosettes (frontispiece, 7 left; fig. 23, 4, 6, and 7)¹⁰⁸ or a scale pattern with lotus flowers similarly bordered (frontispiece, 9; fig. 24, 2 and 5). The only other fragment that can be assigned tentatively to the figures is one of thick, pink glass of the type used for flesh, painted with irregular lines that could represent hair or beard (fig. 23, 10); it is grozed at the bottom right only. A few fragments of dot-bordered roundels containing different rosette motifs have no fold-lines and thus possibly come from background

¹⁰⁷ Franz, *op. cit.*, p. 310, with illustrations of transenna fragments in the Ravenna Museum (p. 307, fig. 2) and a leaded *grisaille* window of comparable design from Eberbach (p. 311, fig. 9; Wentzel, *op. cit.*, p. 14, fig. 2).

Grisaille windows multiplied in the West following the Cistercian edict of 1134 against figural representations, and in the thirteenth century the Crusaders carried the technique back to the East. Dean has shown that fragments found at Montfort conform with the characteristic designs of mid-thirteenth-century French *grisaille* windows (*op. cit.*, figs. 57 and 58).

¹⁰⁸ Compare the representations in mural painting of fabrics with woven designs of roundels edged with pearls, e.g., on the vestment of St. Hermagoras in the late eleventh-century mosaic in the apse of St. Mark's in Venice (Weidlé, *op. cit.*, pl. 4) and in the frescoes of the twelfth-century Cappadocian column-churches: on David's tunic in Elmale Kilisse, with rosettes in the roundels (G. de Jerphanion, *op. cit.*, pls. 118, 2 and 124, 2), and on the back of St. Matthew's chair at Qaranleq Kilisse (*ibid.*, pl. 104, 2).

diapers (frontispiece, 6 and 9, top left; fig. 24, 1; fig. 25, 3). A large amber-yellow piece representing a jewel held with claws and surrounded by pearls may have adorned a throne or book-cover (frontispiece, 8; fig. 24, 11). The blue fragment with smaller jewels in claws may come from another such accessory (fig. 25, 5). A minute piece of colorless glass, grozed all round, and painted to represent a single jewel is of the same class (frontispiece, 6). The only inscription fragment differs from the Pantocrator "Y" in having the letters painted on, not reserved in, the red glass (frontispiece, 7; fig. 23, 3): a "K" or "X" followed by an elongated "O" or "C."

Material appropriate for the frame sections of the windows includes many pearl border fragments of pink, amber, pale green, and colorless glass (frontispiece, 7-9; fig. 23, 5; fig. 24, 10; fig. 25, 1 and 6). They differ from most of the Pantocrator equivalents in that the circles are outlined, leaving the small spandrel areas unpainted; but the Pantocrator variety with the spandrels reduced to dots (fig. L, 9 B) provides a link with the normal Pantocrator type having the spandrels entirely painted out.

Some complete triangles and fragments of other forms, each with a leaf motif, probably come from the type of composite border in which a design of repeating units is formed in the lead (frontispiece, 6; fig. 25, 2, 4, and 7). The cusps, sometimes emphasized by dots, that form the lobate outline of the leaves, like the radial veining, recall the leaf units in the borders of some early Western windows.¹⁰⁹ The two red pieces with a much larger leaf decoration (frontispiece, 7; fig. 23, 2 and 9), both of them complete, and the fragments of a third on green glass (frontispiece, 9; fig. 24, 3) recall the bold acanthus foliage on some representations of Byzantine fabrics,¹¹⁰ as well

¹⁰⁹ E.g., in France, that of the Châlons-sur-Marne medallion, ca. 1160, of the Invention of the Relics of St. Stephen (Aubert *et al.*, *op. cit.*, p. 108, fig. 78) and those of the west window at Chartres (*ibid.*, p. 34, fig. 15); in Alsace, that of the Wissembourg window of the Virgin and Child (Wentzel, *op. cit.*, fig. 22); and, in Germany, those of the windows of the Gerlachus group (Wentzel, *op. cit.*, figs. 18-20).

¹¹⁰ E.g., that on St. Luke's footstool in the twelfth-century Bodleian New Testament MS. Auct. T. infra 1.10 (Misc. 136), fol. 231^v (Beckwith, *op. cit.*, fig. 166).

as that on which some of the Augsburg prophets stand.¹¹¹ Comparable large leaves occur in the composite borders of the West window at Chartres,¹¹² where the leaf form on one of our red pieces (fig. 23, 9) is exactly repeated in the foliage overlapping the pearl borders of a later window.¹¹³ These large leaves survive even later in German glass.¹¹⁴

A few pieces with narrow border designs more probably adorned garments. The simplified but characteristically Byzantine palmette border on yellow glass (frontispiece, 6) can be matched in Austria and the Rhineland.¹¹⁵ There is a small fragment from a rinceau (frontispiece, 8 top right; fig. 24, 8) like those from the Pantocrator church (fig. L, 4 and 7), for which Western parallels have been noted. Peculiar to this Kariye series are the guilloche (frontispiece, 6) and the design of trefoil-filled triangles divided by a dotted zigzag band (fig. 24, 6-7), though the essentials of the latter recur in the borders of windows of the Gerlachus group.¹¹⁶

The windows from which these Kariye Camii fragments come must then have been similar in character to those of the Pantocrator church, which we have seen are datable around 1126. Where they present different features, these can in most cases be matched in twelfth-century western glass. These internal indications of their date do not conflict with the circumstances of their discovery in the apse of the main church, circumstances which suggest that they formed part of the glazing of its triple window. For this window was included in the reconstruction of the church that is plausibly attributed to the Sebastocrator Isaac Comnenus,¹¹⁷ who, prior to his exile from the capital about 1120, was a principal patron of this foundation of his grandmother's.¹¹⁸ In that case, if

the Kariye Camii fragments represent the original glazing, which seems probable, they may have been set some ten to twenty years earlier than the fragments from the Zeyrek Camii.

Fethiye Camii

In the Parecclesion added in the early fourteenth century to the church of the Theotokos Pammakaristos now known as Fethiye Camii, the uncovering and cleaning of the mosaics previously discovered¹¹⁹ was continued and by the end of the 1962 season was virtually completed. Apart from the thirty-six subjects already identified,¹²⁰ four more figures of saints and a fragment from another scene came to light:

37. Gregory the Armenian, in the vault of the southeast compartment
38. Anthony, in the vault of the southwest compartment
39. Ignatius Theophoros in the vault of the northeast compartment
40. Gregory of Nyssa, on the north arch of the east arm, the east half of the soffit
41. Fragment from unidentified scene, above the east arch of the north arm.

Close underneath Gregory of Nyssa rises the arch inserted when the two northern columns were removed, and, unless the original construction is restored, this figure will remain concealed for the most part.¹²¹

Simultaneously, the windows in the north and south arms and that over the apse were restored to their original forms, each with two marble mullions. The masonry filling was removed from the apse window. All these windows were supplied with new glazed panels (figs. 34, 35). In the south wall the entrance door on the axis of the dome, which had been enlarged into a window, was

¹¹¹ Wentzel, *op. cit.*, figs. 5-6.

¹¹² Aubert *et al.*, *op. cit.*, p. 34, fig. 15.

¹¹³ *Ibid.*, p. 124, fig. 93, dated ca. 1210.

¹¹⁴ E.g. the St. John window in St. Kunibert at Cologne (Wentzel, *op. cit.*, fig. 26).

¹¹⁵ On the robe of Mary Magdalen in the Klagenfurt window, ca. 1170 (Wentzel, *op. cit.*, fig. 7), and on those of the Strasbourg emperors (Zschokke, *op. cit.*, p. 187, fig. 51).

¹¹⁶ Wentzel, *op. cit.*, figs. 19-20.

¹¹⁷ Oates, *op. cit.*, p. 231.

¹¹⁸ On Isaac's commemoration in the fourteenth-century Deesis mosaic, see P. A. Underwood, "The Deesis Mosaic in the Kariye Camii

at Istanbul," *Late Classical and Mediaeval Studies in Honor of Albert Mathias Friend, Jr.* (Princeton, 1955), p. 256f.

¹¹⁹ Underwood and Majewski, *op. cit.* (*supra*, note 1), pp. 215-219.

¹²⁰ For a plan showing the mosaics discovered prior to 1959, *ibid.*, p. 216, fig. A.

¹²¹ A full publication of the mosaics of the Parecclesion is to be prepared by Professor Underwood.

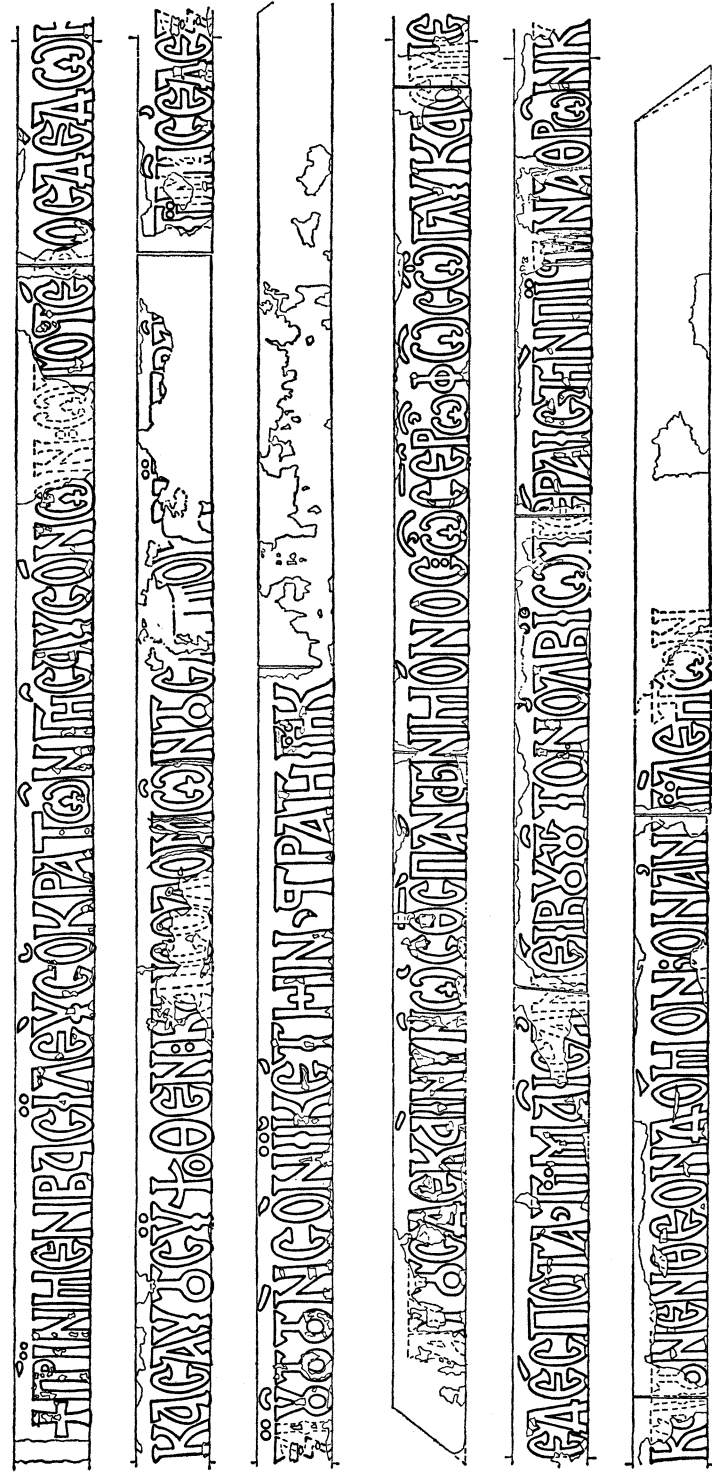


Fig. M. Fethiye Camii (Pammakaristos), Parecclesion. Inscription on Lower Interior Cornice (scale 1:20)

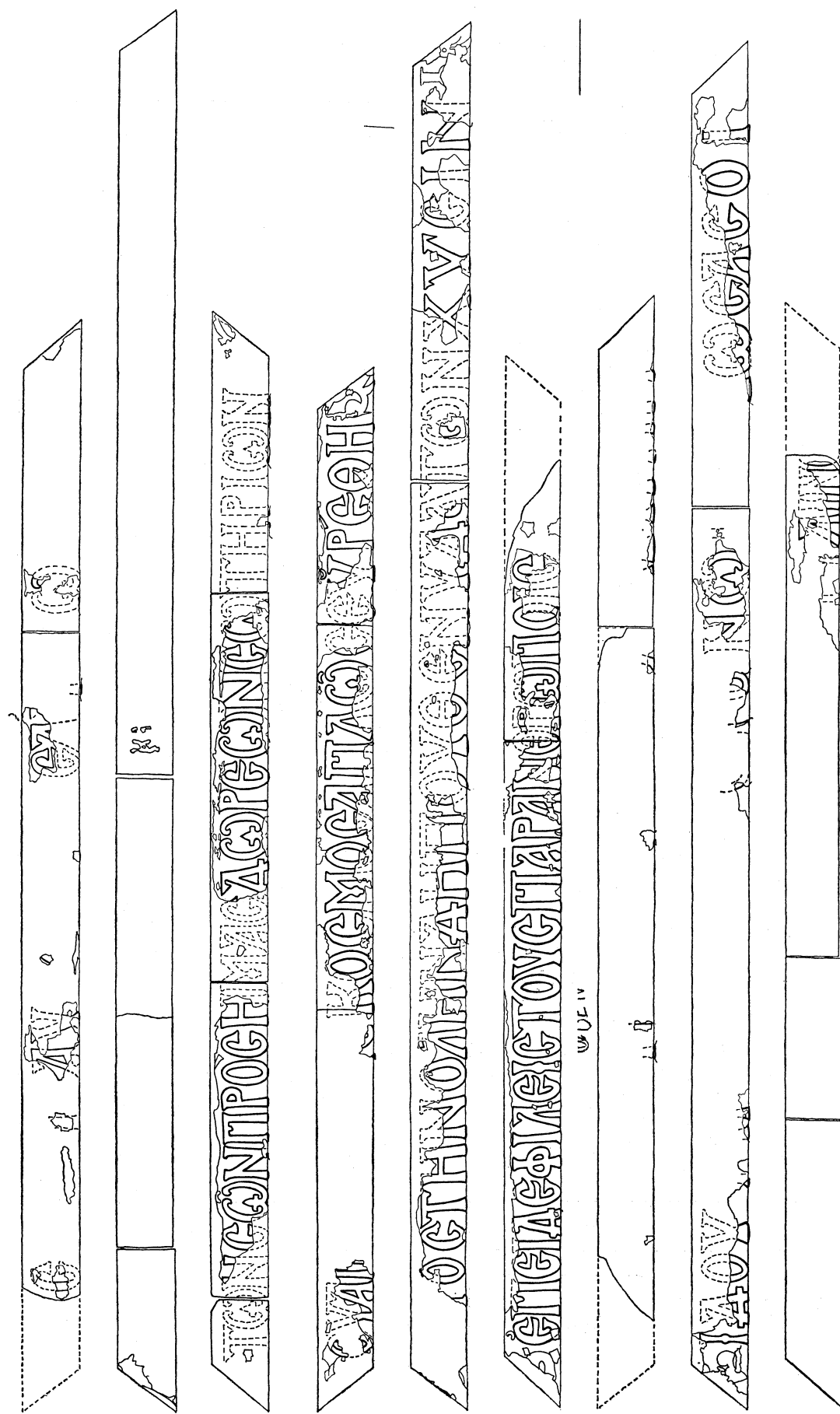


Fig. N. Fethiye Camii (Pammakaristos). Inscription on Upper Cornice: in East (Sections 1-3), South (Sections 4-6) and West (Sections 7-9) Arms (scale 1:20)

restored to its original form with a lunette window over it. In the south wall of the narthex, where another window had been opened, the arcosolium which originally occupied this position was re-formed.

The internal frieze of marble panels ornamented in the champlévé technique, which circles the building below the upper cornice,¹²² and some surviving sections of the marble revetments which it crowned had been endangered by the removal of the remainder of these marble facings. It was consequently necessary to take down the greater part and re-attach it to the wall. This work has been completed.

The remains of the inscriptions in iambic trimeters painted in gold letters on a blue ground on the upper and lower cornices were carefully freed from the whitewash that covered them, secured, and cleaned (fig. 33). A careful record of the surviving sections was made. This is reproduced in figures M and N, where the reasonably certain letters or parts of letters are shown in firm outline and some possible restorations in dotted lines. Also shown are the limits of the surviving areas of the thin gesso dressing with which the marble was prepared for the paint. The manner in which it had tended to flake off more readily under the gold of the letters than under the blue of the ground has helped in the identification of some doubtful letters. The following provisional reading is offered:

+ Πρίν μὲν βασιλεὺς ὁ κρατῶν γῆς
 Αὐσόνω[ν]
 [ῶ] τὸ στέ[φ]ος δέδωκας Αὐτὸς ὑψόθεν
 καὶ Σολομῶντος [.....]
 τιμαῖς ἐδεξιοῦτο τὸν σὸν ἱκέτην
 5 στρατηγικ[αῖς-----]
 Αὐτὸς δὲ καὶ νῦν ὡς Θεὸς πάντων μόνος
 ὦ Σ(ῶ)τερ, ὦ Φῶς, ὦ γλυκασμὲ Δέσποτα
 τιμαῖς ῥ[μ]εῖβον τοῦτον ὀλβιωτέραις
 τὴν πίστιν ἀθρῶν κ[αὶ τ]ὸν ἔνθεον δόμον
 10 ὃν ἀντὶ λεπτῶ[ν-----]
 [-----]
 [-----]
 [-----]
 [-----]
 15 [-----]
 [. .]σ[.....]αυ[.....]ἐλπ[ί]δ[ω]ν[.....]

[-----]
 [τῶ]ν σὼν πρὸς ἡ[μᾶς] δωρεῶν
 σω[τηρίων]
 ξυαν[.....] κόσμος ἀπλῶ[ς] εἰ[ρύ]εθη
 20 [πρ]ὸς τὴν ὅλην δῆπουθε[ν] ὑδᾶ[τ]ω[ν]
 χύσιν
 ἐπεὶ δὲ φιλεῖς τοὺς παρ' ἀνθρώποις
 [....]
 [-----]
 ἰδοὺ [.....]νω[....]ῶσα σοί
 [-----]λίη[...]
 25 [-----]
 [-----]
 [-----]

In this reading it is assumed that a single series of verses, starting on the lower cornice (fig. M), was completed on the upper (fig. N). The cross marks the beginning on the south wall of the Parecclesion just west of the point where the iconostasis would have abutted it. Lines 1 to 5 are on the south wall, lines 6 to 10 on the west. The missing lines 11-15 would have been completed on the north wall, which lost its cornice in the Turkish alterations, ending at the iconostasis.

In the surviving fragments on the upper cornice, which follows the cruciform outline of the superstructure, there is no indication of beginning or end. But having reached the end of line 15 on the lower cornice, in the northeast compartment, where the iconostasis would have impeded any continuation at this level, the reader would normally have passed next into the east arm, where, standing before the entrance to the bema, he would be well placed to follow a continuation on the upper cornice starting in this east arm. I have, therefore, taken as line 16 the fragments on the section of cornice on the east wall of the east arm. From this point the text continues, a line to each wall section, round the east, south, and west arms, though of lines 17 and 22 nothing is preserved. It ended, presumably, with three more lines, making twenty-seven in all, on the sections of cornice now missing in the north arm.

The first ten lines on the lower cornice are so nearly complete as to leave no doubt of their meaning, which may be rendered as follows:

¹²² *Ibid.*, fig. 17.

+ Formerly the Emperor, ruler of the land of the Ausones, / to whom Thou Thyself from above gavest the crown / and .. [e.g., might the equal of] .. Solomon's, / honored Thy (departed) suppliant with dignities / of military command .. [e.g., and civil office] .. / Now, do Thou Thyself, as the one God of all, / O Saviour! O Light! O Sweet Lord! / bestow upon him more blessed honors, / beholding (his) faith and this house of God, / which in place of insignificant .. [e.g., he endowed with splendid appointments]

Contrary to what was expected,¹²³ it is abundantly clear that these are not the known verses of Manuel Philes which, according to the heading in his *Carmina*, were to be seen in this church.¹²⁴ But the meter and the style are his, and there is little doubt that this invocation to the Almighty was composed by Philes for the repose of the soul of the Protostrator Michael Glabas Tarchaniotes, as was that in the collection. This latter poem, as well as the epitaph surviving in part on the exterior of the building, also by Philes, was composed by the poet in the name of the Protostrator's widow, who erected the Parecclesion to house his tomb. There can be little doubt that the

same applies to the newly uncovered invocation.

In the continuation, if such it be, on the upper cornice, although the greater part of four lines is preserved, the key phrases are missing. It is, however, clear from line 18 that the Almighty is still addressed. The end of a feminine participle before the $\sigma\sigma\iota$ with which line 23 closes might refer to the Protostratorissa, whose name in religion is given as Martha in the other compositions of this series.¹²⁵

The corresponding cornice in the narthex was also examined, but without discovery of any trace of a similar inscription. It is noteworthy, though, that the circuit of its four walls would accommodate fifteen lines of iambic trimeters at the spacing employed on the lower cornice of the church proper; without excessive squeezing it could have taken sixteen lines. It is perhaps no coincidence that this is the length of the shorter "epigram" in Philes' *Carmina* which was to be seen in this church.¹²⁶

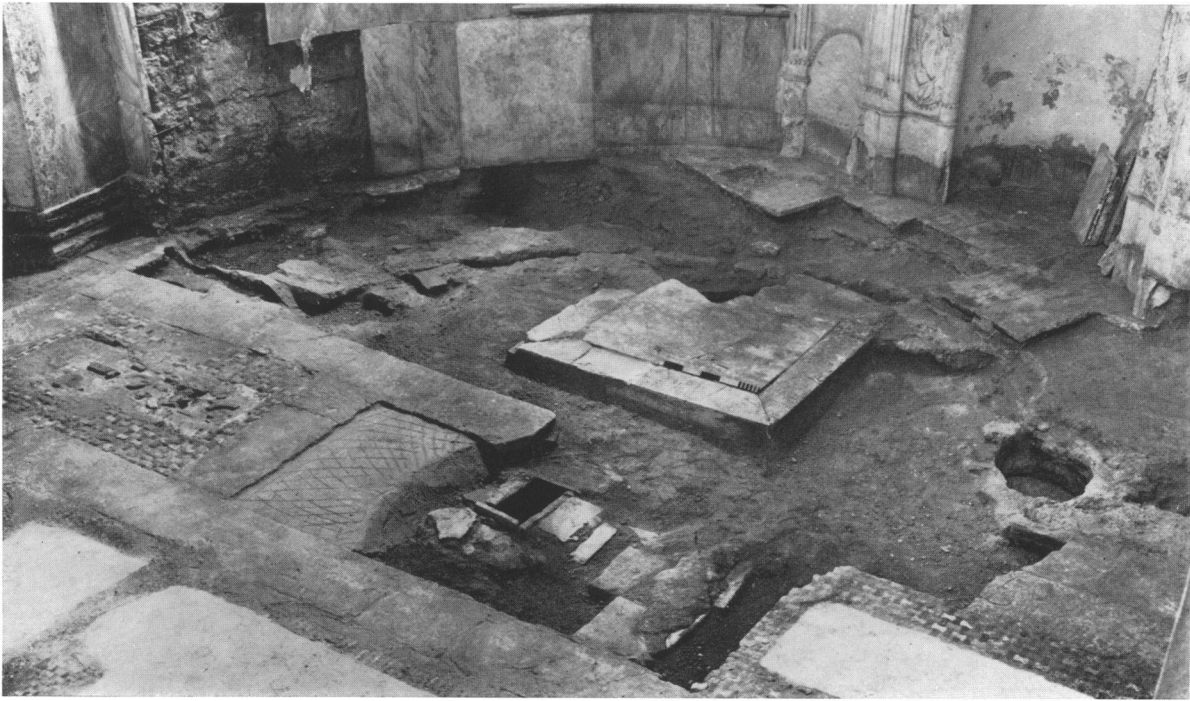
The opportunity was taken to study the original form and the subsequent structural history of the south wall of the main church, against which the Parecclesion was built. It was found that some earlier annex had preceded the lateral arm of the outer narthex that now leads to the Parecclesion. Some fragments of the painted decoration of this annex were uncovered.

¹²⁵ Also in the mosaic inscription round the apse: P. A. Underwood, "Notes on the Work of the Byzantine Institute, 1954," *Dumbarton Oaks Papers*, 9-10 (1955-1956), p. 298 and fig. 113.

¹²⁶ See note 124.

¹²³ *Ibid.*, p. 218; J. Lafontaine, "Fouilles et découvertes byzantines à Istanbul de 1952 à 1960," *Byzantion*, 29-30, (1959-60), p. 355.

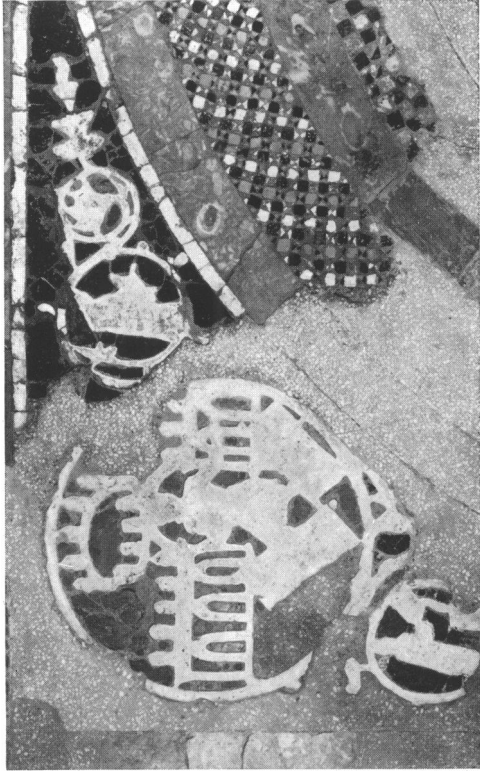
¹²⁴ Ed. Miller, I (Paris, 1855), p. 115, no. ccxix, whence Van Millingen, *op. cit.*, p. 159f. Nor are they among the *inedita* published by Martini (*Atti della R. Accademia di Archeologia, Lettere e Belli Arti*, XX, suppl. [Naples, 1900]).



1. South Church, Traces of Synthronon



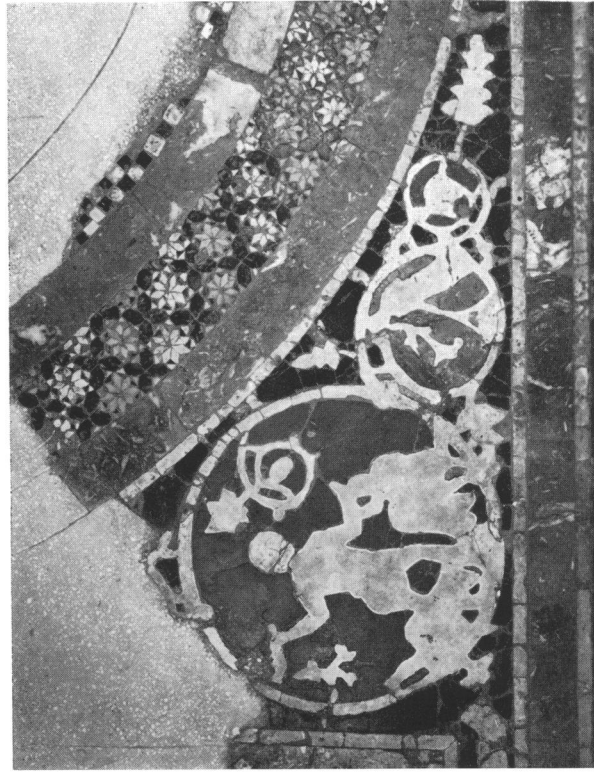
2. Floor of South Church, looking East
Zeyrek Camii (Pantocrator)



3. Floor of East Arm. Samson Removes the Gates of Gaza (?)



4. Marble Font from Vault under Bema



5. Floor of East Arm. Samson Slays the Philistines(?)



6. Floor of Central Area, Northeast Spandrel
Zeyrek Camii (Pantocrator), South Church



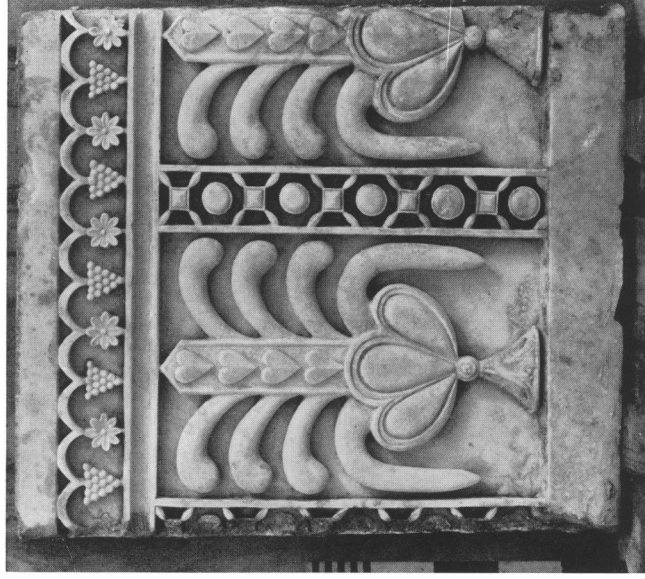
7. Fragments of Marble Panel from the Iconostasis (?)



8. Fragments of Marble Panel from the Iconostasis (?)



10. Marble Reliquary from Vault under Bema



9. Marble Panel found reversed in Turkish Revetment of Apse

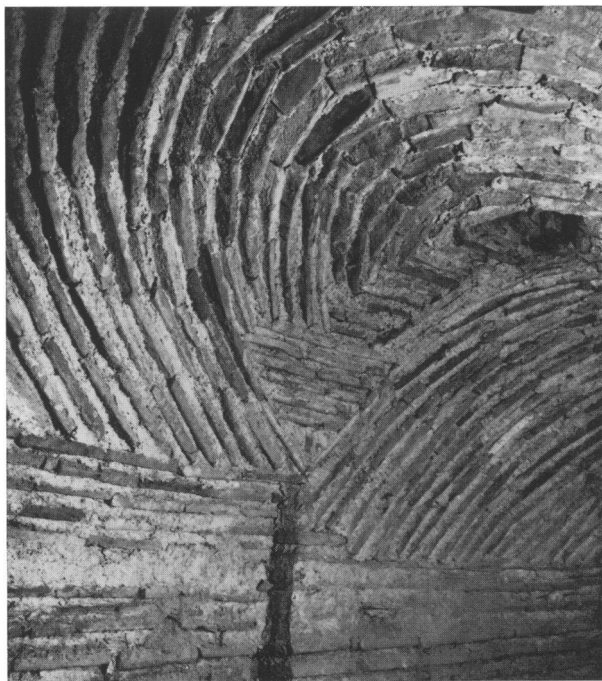


11. Verd Antique Panel found reversed in Turkish Flooring of Bema

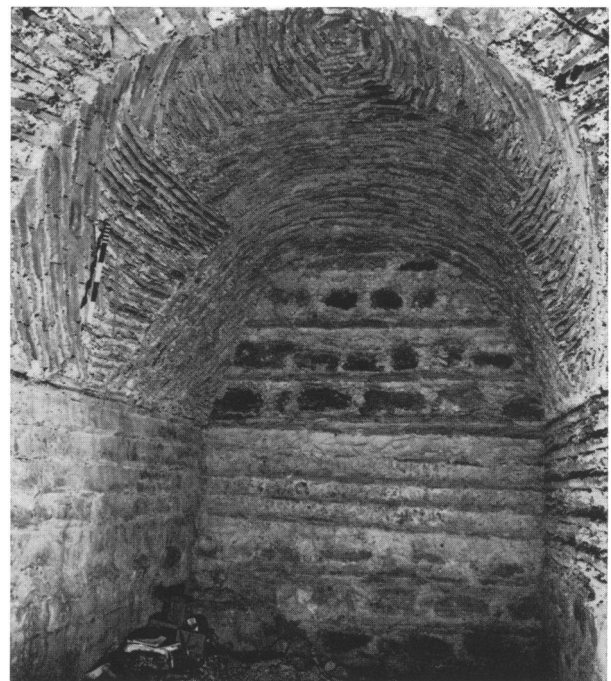
Zeyrek Camii (Pantocrator), South Church



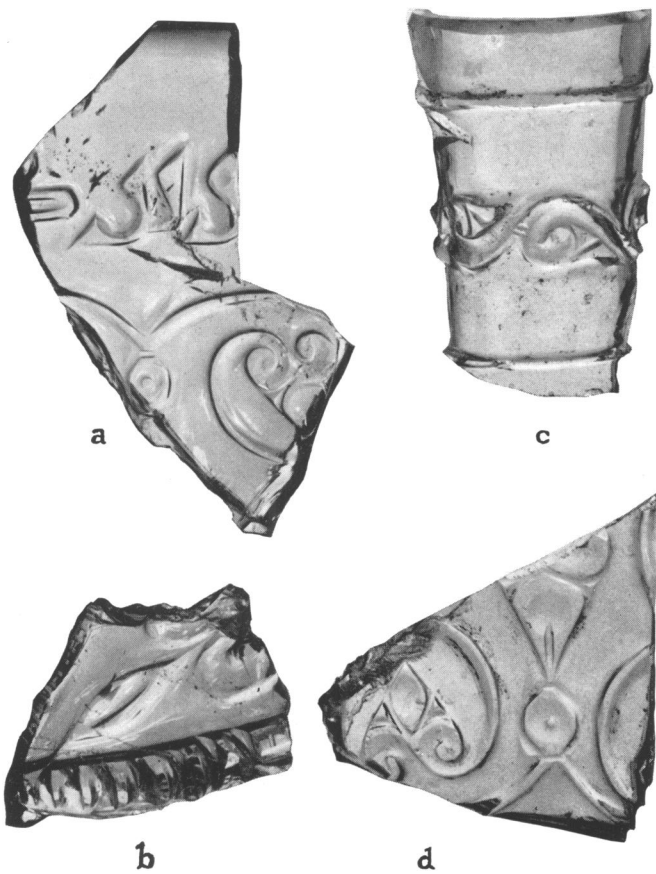
12. Revetment on North Side of Bema, after cleaning



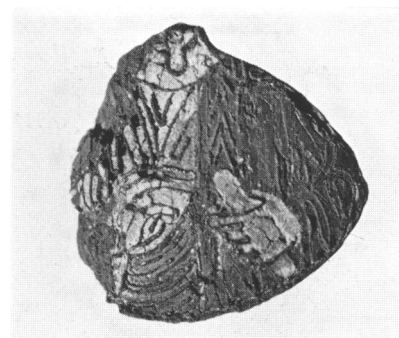
13. North Vault under Bema. Detail of Vaulting



14. South Vault under Bema, looking West
Zeyrek Camii (Pantocrator), South Church



15. Carved Rock Crystal from Vault (scale 1:1)



61. Fragmentary Bust of Pantocrator.
Silver-Gilt and Enamel (scale 1:1)



17. Detail of Figure 16 (scale 3:1)

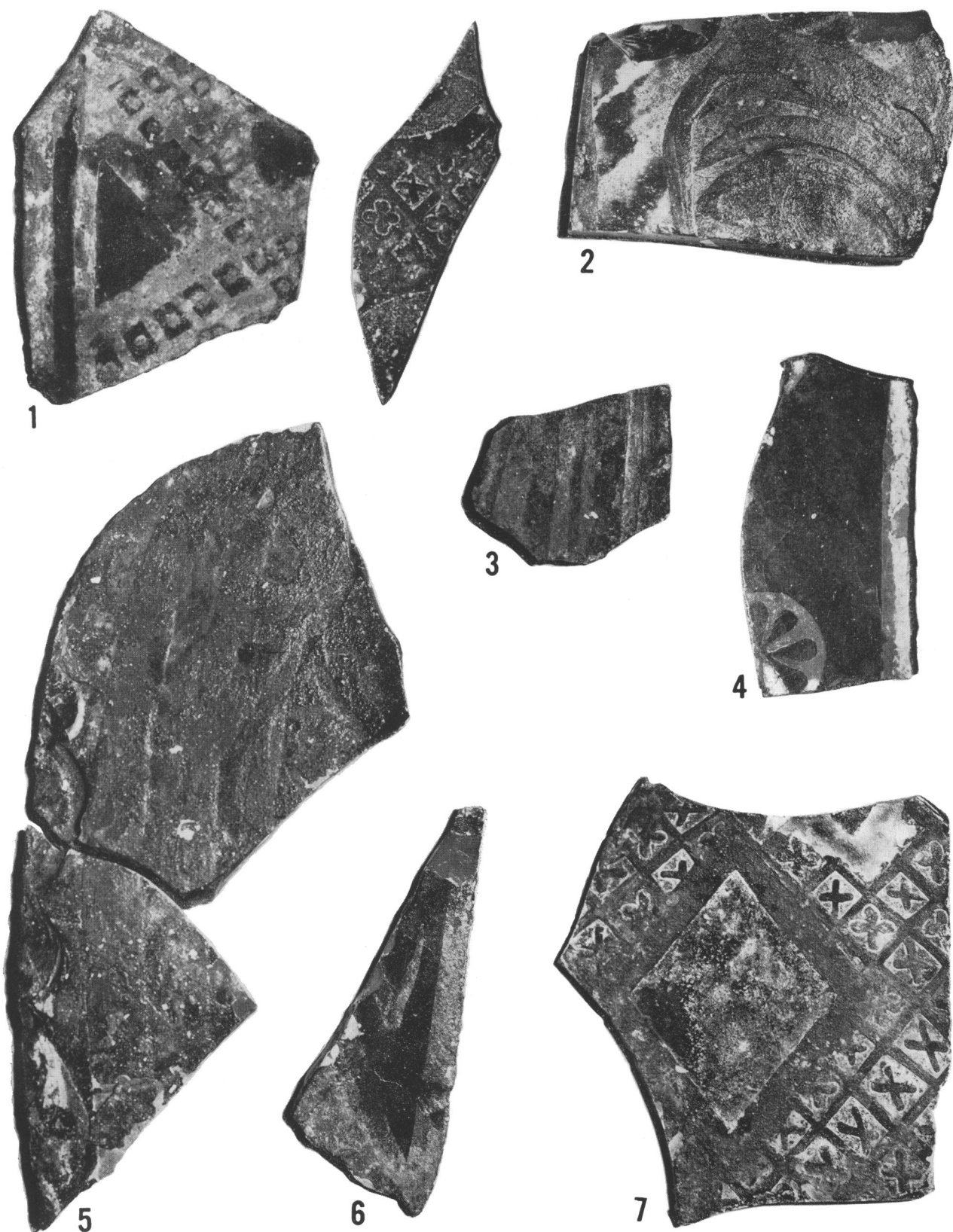


18. Inscribed Gold and Enamel Band from Vault (scale 1:1)



19. Detail of Figure 18 (scale 3:1)

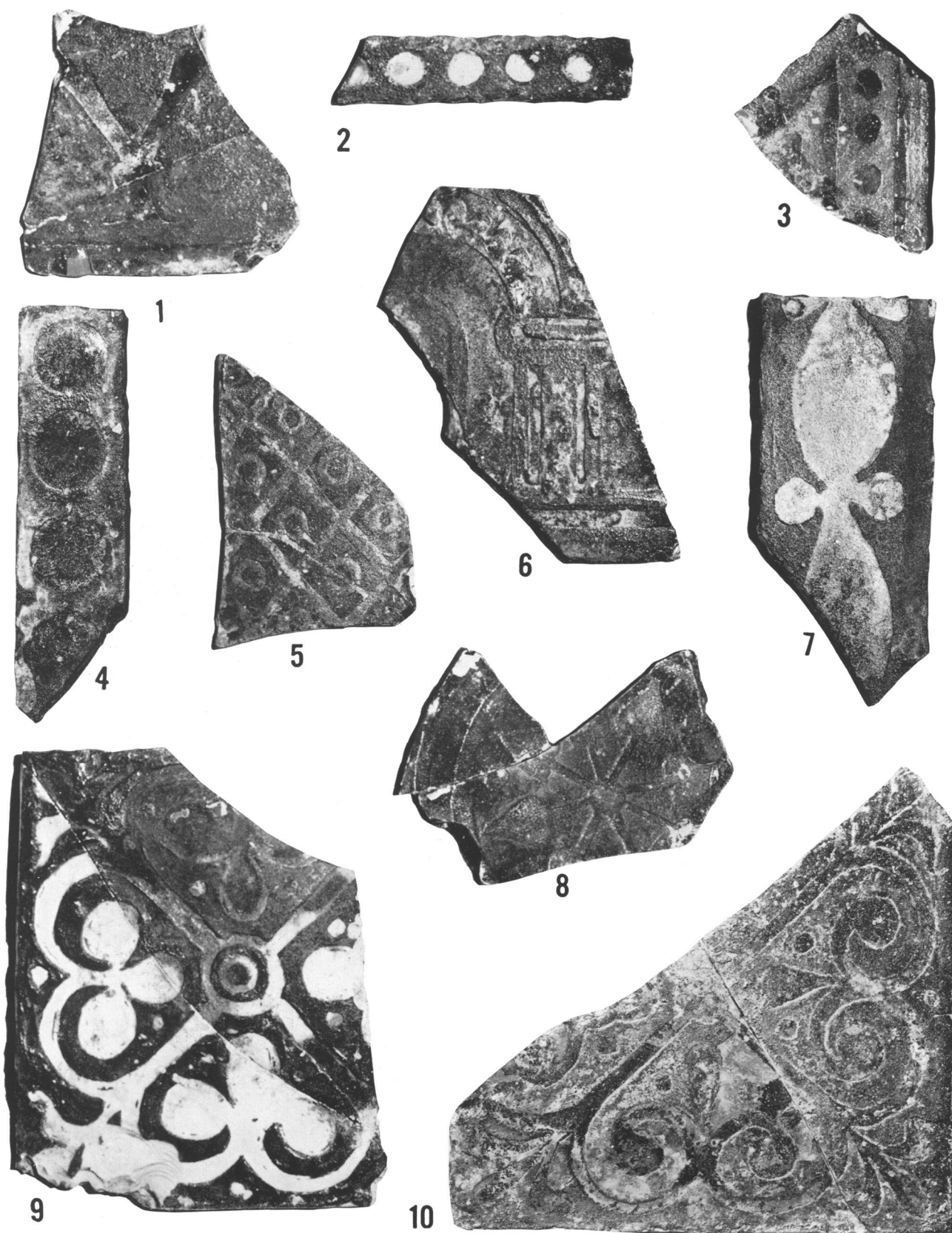
Zeyrek Camii (Pantocrator), South Church



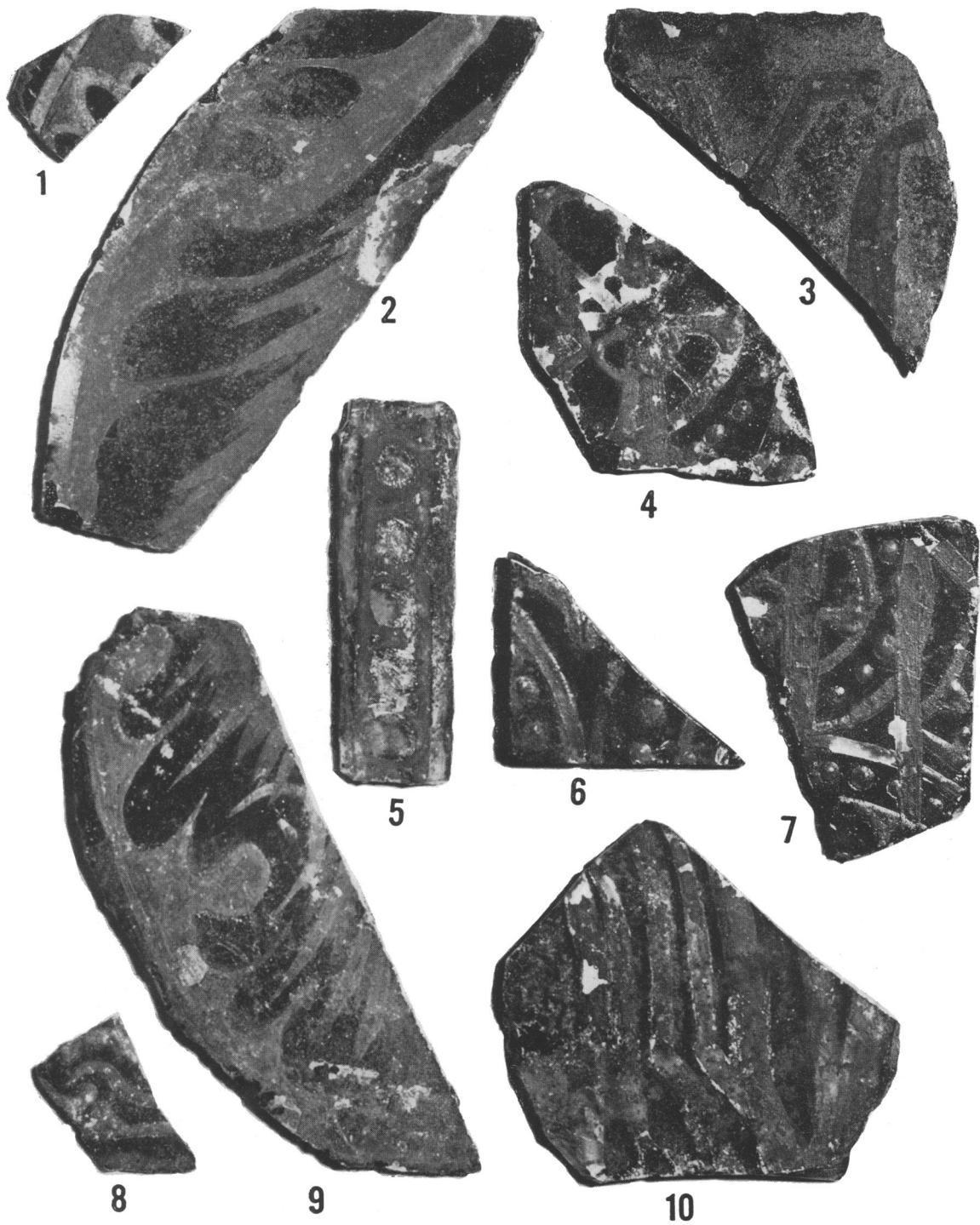
20. Zeyrek Camii (Pantocrator). Stained Glass Fragments from Vault. 1 and 3 Amber-yellow;
2 Pink; 4 and 6 Purple-red; 5 and 7 Blue (scale 1:1)



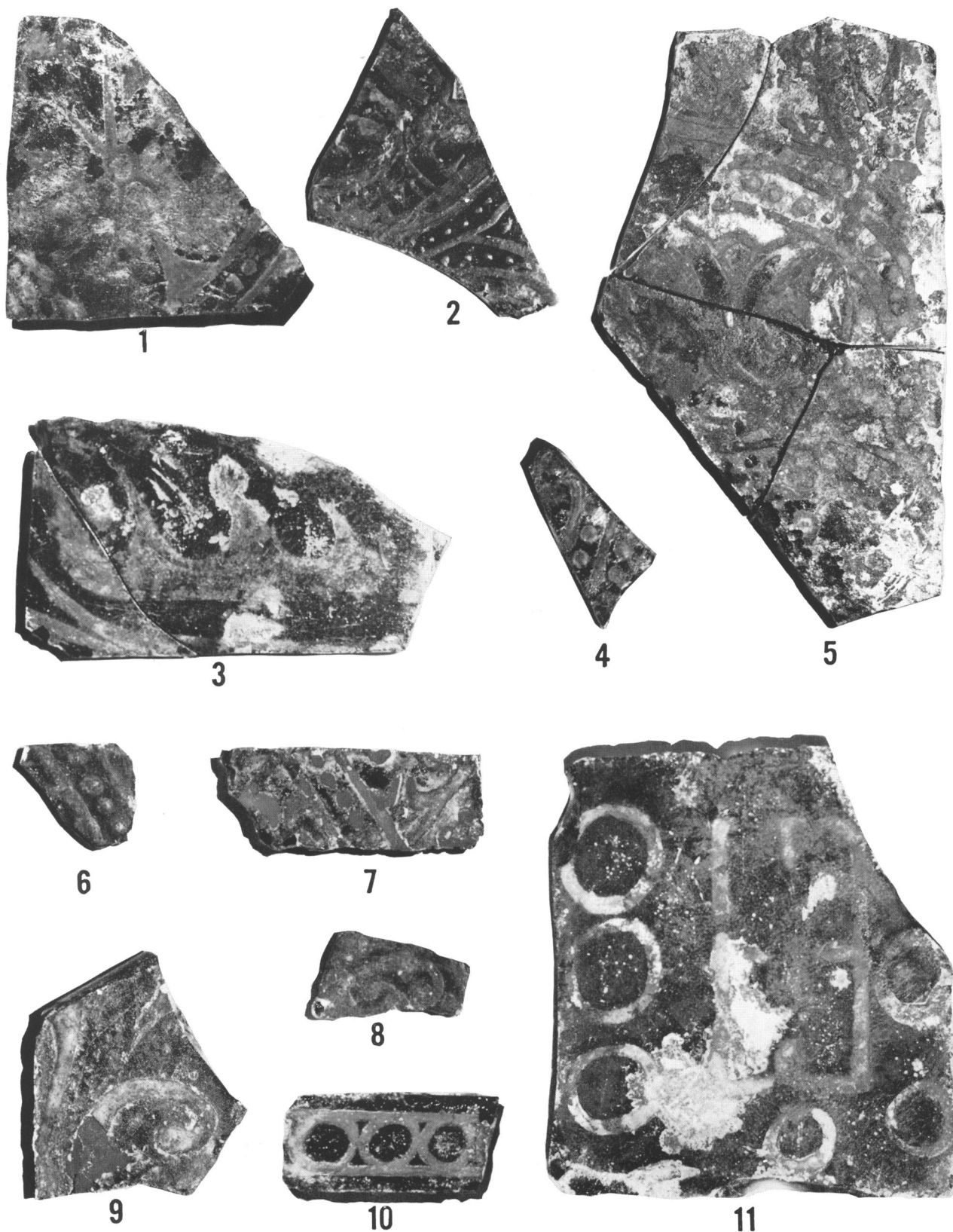
21. Zeyrek Camii (Pantocrator). Stained Glass Fragments from Vault. 5 Amber-yellow; Remainder Blue (scale 1:1)



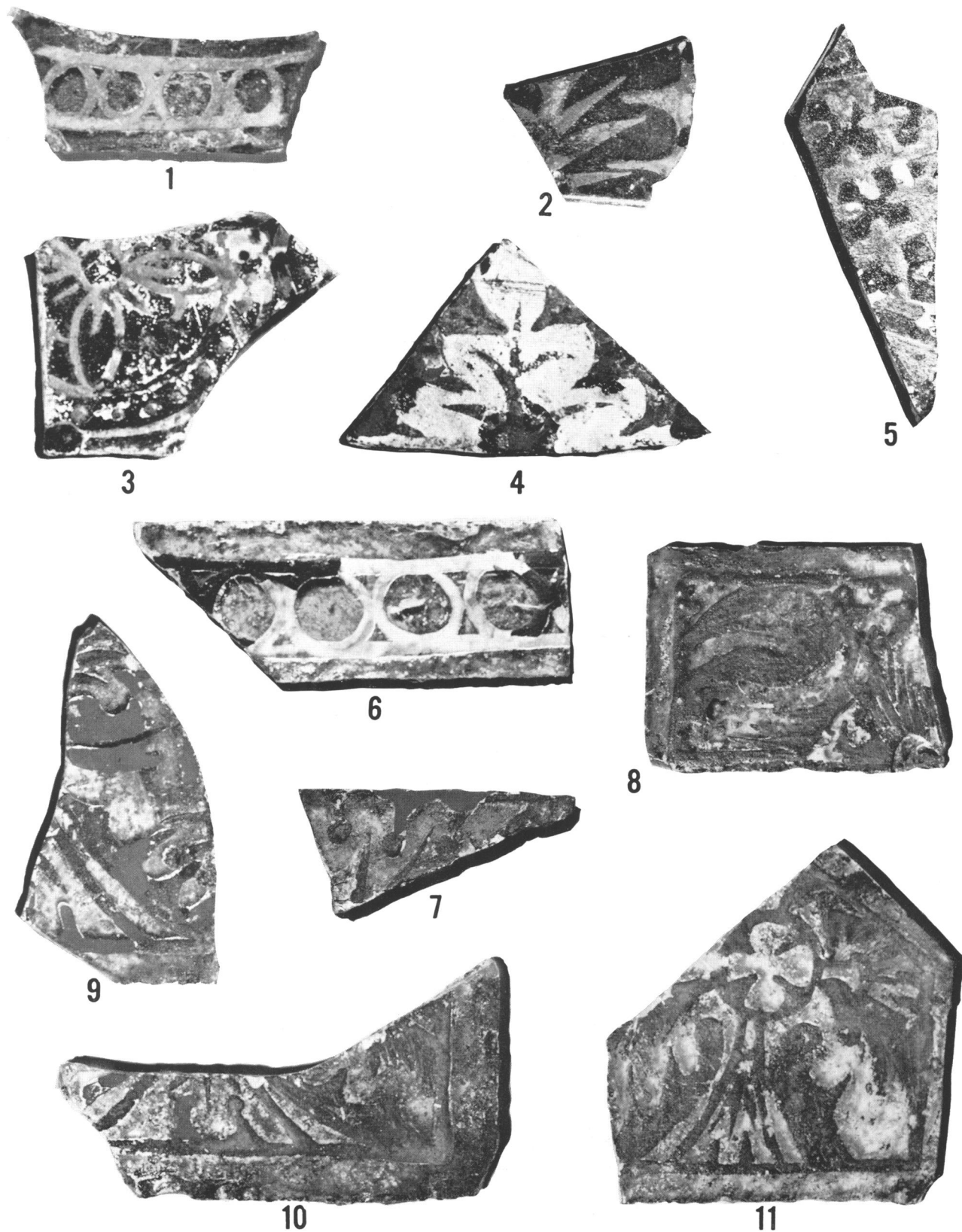
22. Zeyrek Camii (Pantocrator). Stained Glass Fragments from Vault. 1-3 Colorless; 4, 6, 7, 9 Amber-yellow; 5 Purple-red; 8 Blue; 10 Green (scale 1:1)



23. Kariye Camii. Stained Glass Fragments from Bema. 5 and 10 Pink;
Remainder Purple-red (scale 1:1)



24. Kariye Camii. Stained Glass Fragments from Bema. 1-5 Green; 6-11 Amber-yellow
(scale 1:1)



25. Kariye Camii. Stained Glass Fragments from Bema. 1 Amber-yellow; 2-5 Blue; 6 Greenish; 7-11 Colorless (scale 1:1)



26. From Northwest, before repair



27. From Northwest, after repair
Fenari Isa Camii

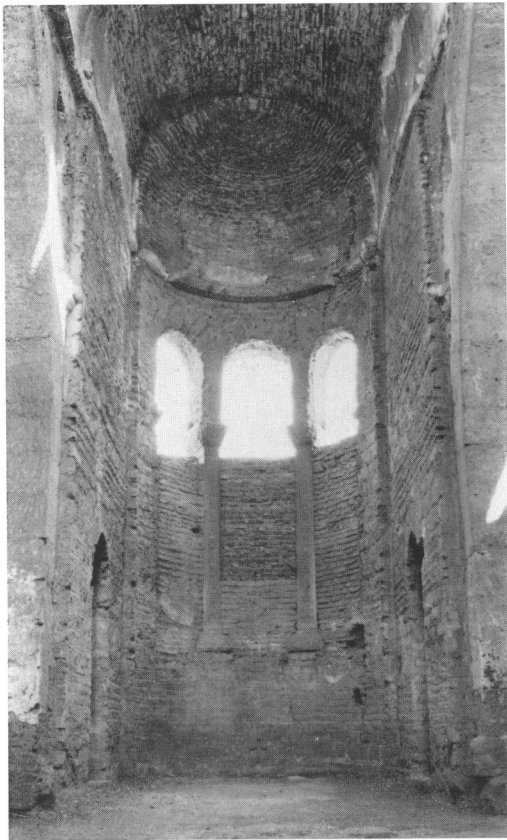


28. From Southeast, before repair

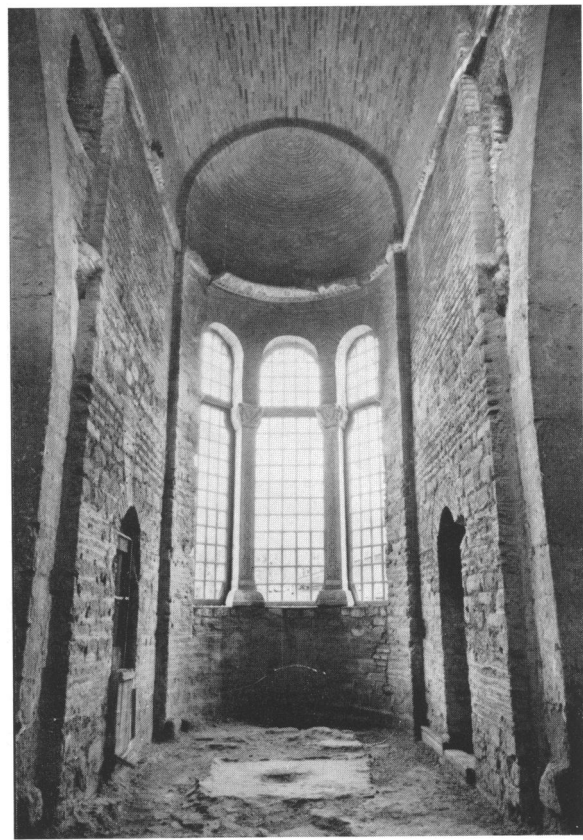


29. From Southeast, after repair

Fenari Isa Camii



30. Bema of North Church, before repair



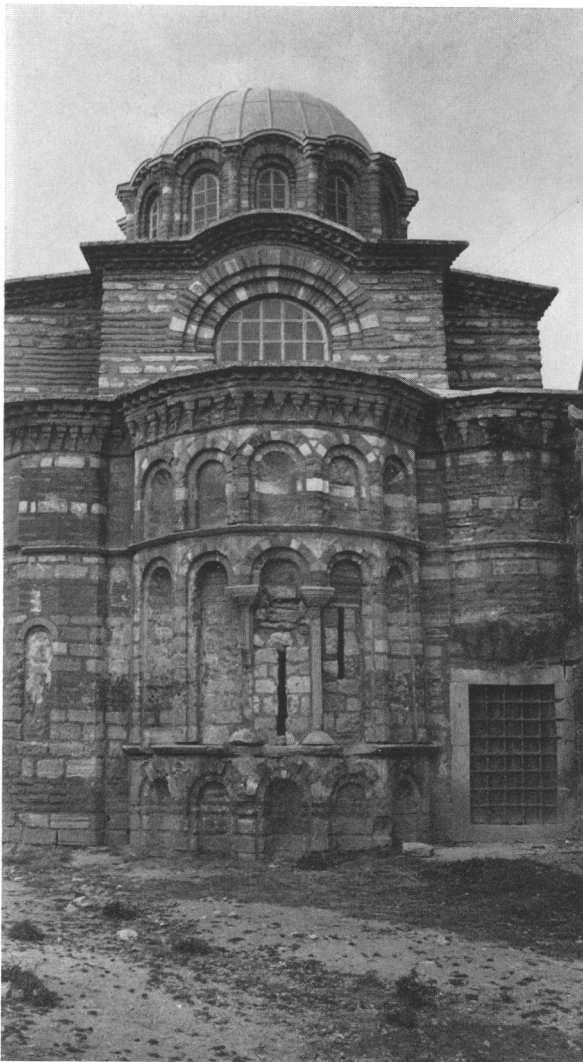
31. Bema of North Church, after repair



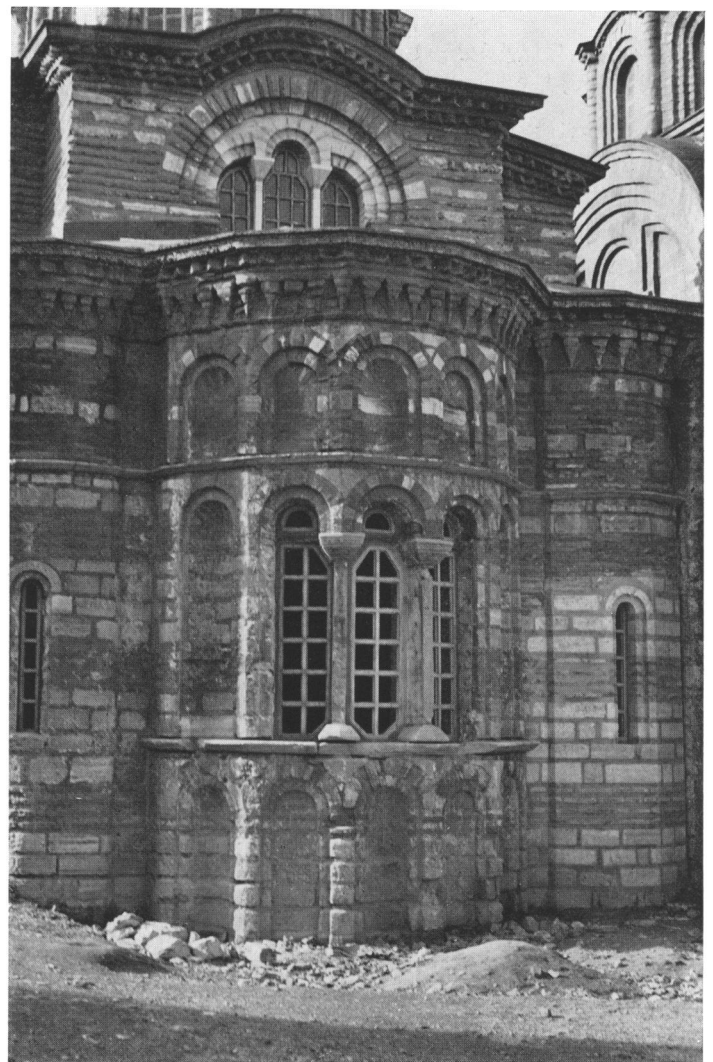
32. North Wall of Church, after repair
Fenari Isa Camii



33. Parecclesion. Painted Inscription on Lower Cornice



34. East End, before repair



35. East End, after repair

Fethiye Camii (Pammakaristos)